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VOLUME 4

IN THE SUPERIOR COURT,

State of California, County of Sacramento.

OCTOBER SESSION, 1881.

HON. JACKSON TEMPLE, - - - - - - - PRESIDING JUDGE.

WINFIELD J. DAVIS, OFFICIAL REPORTER.

SAMUEL OSBOURNE AND WILLIAM M. CUTTER, REPORTERS.

The People of the State of California,
vs.
The Gold Run Ditch and Mining Co.

COUNSEL:

For Plaintiff,

HON. A. L. HART, Attorney General, GEORGE CADWALADER, ISAAC S. BELCHER, A. L. RHODES, RICHARD BAYNE.

For Defendant,

J. K. BYRNE, W. C. BELCHER, S. M. WILSON, W. T. WALLACE, A. B. DIBBLE, A. P. CATLIN.

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In the Superior Court of the State of California in and for the County of Sacramento.

The People of the State of California
vs
The Gold Run Ditch and Mining Company

Fifth day
Saturday
Nov. 19. 1881.

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Albert Foster 1053 X 1183. Re D. 1251

Wm J Davis
Official Reporter.
Sacramento.

In the Superior Court of the State of California in and for the County of Sacramento

The People of the State of California vs The Gold Run Ditch and Mining Company	Fifth day Saturday November 19/81 Morning Session

Testimony of Albert Foster

Called for plaintiff   Sworn

Mr. Cadwalader Q. Where do you reside, Captain?

A. I reside in Sacramento

Q. What is your present business?

A. Assistant Superintendent of the Central Pacific Railroad Company's steamers

Q Running where?

A Running from San Francisco to
1053 Sacramento, also on the upper

Sacramento river

Q. About how many Steamers does that Company own that you have the Superintendence of?

A. Well I should say ten or twelve now perhaps more, without looking them up

Q. How long have you held that position?

A. Since about 1872

Q. When did you arrive at San Francisco? A. I arrived July 22nd 1849

Q. When did you first come up the Sacramento river as far as Sacramento City

A. We came up about the 1st of August the same year.

Q. How did you come up

A. In a small boat that was called a batteau

Q. How was it propelled?

A. With oars and small sail; temporary sail

Q. How long did you remain there? A. That time some three or four days

1024 Q. Where did you go then?

A. We went to Parks Bar on Yuba river with the same boat

Q. In the fall of that year did you go up the Sacramento river from here as far as Chico?

A. I came down from Parks Bar to the mouth of Feather river and then went up the Sacramento to a point abreast, nearly abreast of Chico within about five miles of the town of Chico

Q. What distance would that be from here?

A. It would be near two hundred miles by river; that is as we are in the habit of calling miles. I presume a survey might be shorter

Q. As the river runs?

A. Yes sir

Q. What time did you return to Sacramento?

A. In October about the 1st of October. I remember of

1855 being here on the 10th of

October. I think we had some rain that day, a little, that is 1849.

Q. Did you go down the river then?

A. Yes sir, we went to San Francisco.

Q. Do you recollect Steamboat Slough? A. Yes sir

Q. What is that? How far does it commence below here and how long is it?

A. We call it thirty miles below Sacramento

Q. How long is it?

A. It would be some five or six miles through the Slough proper?

Q. How wide is it?

A. The average would be about two hundred and fifty feet I should judge

Q. How does it compare in width with what is called old river which ran, I believe, on the other side of Grand Island?

1056 A. It is considerably narrow

perhaps on an average not half as wide

Q. They both come together at what place?

A. At the mouth of Cache Slough or near that

Q. The mouth of Cache Slough? How far is that from Rio Vista?

A. Two or three miles we reckon

Q. How far is that from the place we call the Hogs Back?

A. Hogs Back would be about five miles above the junction of old river

Q. Above what?

A. It would be about five miles above. Not on old river, but as we go through the slough.

Q. On the main river?

A. It was about five miles above the junction of the main river and the slough near Cache

1057 Mr. Rhodes. Q. The lower

junction you mean about five miles above the lower junction A. Yes sir
Mr. Cadwalader Q. But the Hogs back is not in the main river is it?

A. It is not in the main river

Q. What is it in?

A. We generally call that tract the Steamboat slough although there are two sloughs come together, the Sutter slough, and Steamboat slough, above ~~the~~ Hog's ~~back~~ Back; The Steamboat slough proper comes in above the mouth of Sutter slough

Q. What did you meet in the Steamboat slough going down?

A. We passed the brig North Bend. She was on her way from Sacramento to San Francisco

Q. What kind of a vessel was she?

A. She was a full rigged

1058 brig.

Mr Catlin Q. What was the name? A. North Bend

Mr. Cadwalader Q. Using her sails?

A. She was dropping through the slough.

Q. Well, did you see her below

A. Yes sir

Q. Did you board her at any place? A. I boarded her October 16th about abreast of what we then called New York

Q. That is about the mouth of the river, isn't it?

A. It is a little below the mouth of the Sacramento river

Q. How far?

A. About three miles

Q. What was the tonnage of that vessel and what was her draft of water?

A. I would judge her tonnage to have been something over two hundred tons and her

1059 draft of water perhaps seven

feet light

Q. That 16th of October, that was long before the rains, was it not?

A. They had had one light rain, nothing to swell the river though.

Q. Do you recollect when the rain set in that year?

A. Yes sir, commenced either the night of the first or second of November.

Q. Do you recollect the Steamer Senator? A Yes sir

Q When did she arrive in San Francisco?

A. She arrived the latter part of October, 1849.

Q. What kind of a vessel was she?

A. She was a sea going vessel

Q. What was her tonnage and draft of water?

A. I should judge her tonnage to be from five to six hundred tons

1060 Q. What was her draft

of water, light?

A. Stern draft of water light, I know to have been about seven feet

Q. How long did she run between San Francisco and Sacramento?

A. I should judge some six or seven years, perhaps longer

Q. Did she make a daily trip? A. Yes sir, that is alternate, three trips a week

Q. She would leave San Francisco at four o'clock in the afternoon? A. Yes sir

Q. And get here about what time? A. Well this would be a little guess work, but I judge it to have been some two or three o'clock in the morning following

Q. She would leave at 2 o'clock the succeeding afternoon? A. Yes sir

Q. And reach San Francisco

1061 between 9 and 10?

A. She would leave San Francisco at four, was generally the time

Q. What?

A. Four o'clock in the afternoon for leaving San Francisco was generally the regular time, that was varied occasionally

Q. Leaving here at two o'clock what time did she generally reach San Francisco?

A. About 9 or 10 at night

Q. During all this time did she run heavily freighted with goods and passengers

A. She, ~~that~~ is, as far as I know, carried considerable freight and a great many passengers

Q. You have travelled on her haven't you? A. Yes sir

Q. A good many times. Where did you go in the spring of 1850?

A. In the spring of '50 I went up the Sacramento and Feather river.

Q. Do you recollect the

1662 schooner "E. A. Stein"?

A. Yes sir
Q. Did, you ever ship on her?
A. I did
Q. In what capacity?
A. As sailor so called then
Q How long were you on her?
A. I was on her about six months
Q. What trade was she in about that time.
A. Running, carrying freight between San Francisco and Sacramento
Q. What was her draft light and loaded?
A. I should judge her draft to have been about five feet ~~loaded~~ light. Loaded she might have perhaps seven feet. She was a small schooner
Q. What was her tonnage?
A. I judge it to have been about fifty tons
Q. Did she navigate between here and San Francisco regularly?
A. Yes sir
Q. Did she have any trouble? A. No sir
1063 Q. What was the condition

Sacto 24 ft at

of the river?

A. At that time the river was clear, all of the reaches were deep.

Q. What?

A. The reaches were deep. In beating down they always kept the lead going at the time as they were not familiar with the river.

Q. Well what kind of sounding did you make?

A. We would beat through this reach from shore to shore and we calculated that we could carry twenty-four feet.

Q. All the way in front of this City? A. Yes sir

Q. That is you would beat down, that is, go in the face of the wind?

A Yes sir

Q. That is called tacking.

A Yes sir

Q. And as you went on your different tacks the lead was kept going? A Yes sir

1062 Q. And in the reach in

front of Sacramento city, you always calculated on having twenty-four feet? A. Yes sir
Q. Was that in low water?
A. That was in low water
Q. Do you recollect coming down the Sacramento river from a point near Shasta in a canoe in August 1851?
A. Yes sir
Q. You made that whole trip did you? A. Made the whole trip, starting from the mouth of Mill Creek.
Q. Where did you come to?
A. Came to Sacramento at that time
Q. Do you recollect the Steamer Comanche?
A. Yes sir, she was being built then, opposite or nearly opposite the mouth of the American river
Q. On the Yolo side?
A. On the Yolo shore, yes.
Q. What kind of steamer was she? A She was a side
1065 wheel steamer, I should judge her to

Misprint

have been 200 or 250 tons burthen

Q. Was she completed there?

A. Yes sir

Q. Did she afterwards run on the river? A. Yes sir

Q. In what trade?

A. She made several trips up the Sacramento, but finally went into the trade, what we call the Marysville trade, running from San Francisco to Marysville

Q. How long did she continue in that trade?

A. I couldnt state the exact time. She was running there in the winter of 1853 to my certain knowledge

Q. During the time she was running did she carry heavy cargoes? A. Yes sir

Q. Freight & passengers?

A. Yes sir

Q Do you recollect the Steamer Emelda? A. Yes sir

Q. What kind of steamer was she? A. She was a side

1066 wheeled steamer of about the same

Size.

Q. Where did she come from?

A. She was put up in the mouth of the American river, she was being built at the same time the Comanche was being built on the opposite side. I will state that both of these steamers were brought out in vessels round Cape Horn, and were put up, as we conned call it, here

Q. Where was she put up, on this side of the river?

A. It was on this side of the river, yes sir.

Q. On which side of the American river?

A. On the south side of the American river

Q. How far inside of the mouth of the river?

A Two or three hundred yards I should judge

Q. What year was that

A. That was 1851

Q. Do you recollect the

1067 vessel that brought the material with

Uzilda
which the ~~Ewilda~~ was constructed

A. I recollect.

Q. (Cont'g) to this Country around Cape Horn?

A. I recollect seeing her laying in the mouth of the river

Q. What kind ~~of~~ a vessel was she?

A. I couldn't tell you as to her rig; I don't recollect

Q. Well, she was a sea-rigged vessel, wasn't she?

A. She was sea-rigged

Q. How did she compare with the old hulks that are now laying in front of this City as to her lines, bluff bows and so forth?

A. She was a pretty flat modelled vessel, as I recollect She probably was Equal in size to any of the vessels that we used as hulks here

Q. But they were built remarkably heavy, were they not?

A. Yes sir

Q And were remarkably
1068 bluff, fore and aft?

A. Yes, all of the first class vessels that first came up here or about all were that class of vessels.

Q. The Clippers are, I believe a much later creation?

A. Yes sir

Mr. Catlin. Q. Didn't they have Baltimore Clippers, long before that? A. Yes sir, I presume so but the Clippers did not make their appearance here until after that

Mr. Cadwalader Q. Was this vessel anchored in the American river? A. Yes sir

Q. At what time?

A. That was in August 1851.

Q. How far was she out from the bank

A. It is a good while to recollect close distances.

Q. What was the appearance of the harbor during the years 1850 and "51, this harbor as to shipping and steamboats and commerce?

1069

A. There was a good deal
a good deal of shipping in
the harbor
Q. What constitutes the
harbor_ Where did it commence
and where did it end?
A It was the whole front
of the city
Q. Did it embrace any part
of the American river?
Mr. Catlin Let him describe it:
Mr. Cadwalader. Well, I will
A. I couldn't say as to
seagoing vessels, making a
habit of landing in the
American river
Q. Do you recollect the
Governor Dana? A. Yes sir
Q. What was she?
A. She was a stern wheel
steamer.
Q. River steamer? A Yes sir
Q. She is still running isn't
she? A. It is a small
part of the old steamer, now.
Q. It has been rebuilt over
A - Yes sir
1070 Q. Do you recollect making

a trip up the American with her in 1862.? A. Yes sir

Q. How far up did you go?

A. We went up near Patersons ranch, we were in sight of the house

Q. How far up is that

A. We called it at that time eighteen miles by river. I doubt of its being more than twelve

Q. Was this river between here and San Francisco under your eye between 1849 and 1862?

A. I dont understand that

Mr. Catlin. Well, I object to ~~the~~ question as being rather too leading

Mr. Cadwalader. Q. During the years between 1849 and '62 where were you?

A. On the river. I ~~com~~-menced steamboating in September 1851, followed that business continuously

Q. You have always been on the river, havent you?

1071 A. Ever since, that is

connected with the Steamboats.

Q. Do you recollect the Steamer Chrysopolis?

A. Yes sir

Q. Or rather before I mention that, what Steamboats came on this river about the time that the Senator did, what sea-going vessels?

A. The New World came on I think in 1850. I will not be sure of that

Q. When did the McKim come on? A. She was one of the earliest boats, not the earliest I think but one of the earliest —

Q. When did the Hartford come?

A (Cont'd) And she was running in the early steamboat days

Q. When did the Antelope come on? A. She came on later, I think after the Confidence and the Wilson G. Hunt

1072 Q. When did the Antelope come on?

A. The Antelope that was after the Wilson G. Hunt had been running here some time

Q. When did the Confidence come on?

A. The Confidence and Wilson G. Hunt formed a line running against the Senator and the New World, I couldn't state just what time they came on

Q. Well they were all steamers of the first class were they? They were on what we call —

Mr. Catlin (Intg) Let him describe it

Mr. Cadwalader Well.

A. The Confidence and Wilson G. Hunt were much smaller steamers than the Senator and New World

Q. Well, were these all seagoing steamers?

A. The Confidence and Hunt came round Cape Horn but you could hardly call them sea-going vessels

Q. What you call "sound" steamers? A. Yes sir, North River steamers I should rather consider it, smooth water.

Q. Now state up to what time the size and tonnage of the vessels navigating the Sacramento river kept increasing

A. They kept increasing — The Capital was the largest vessel that ever came to Sacramento

Q. When was she put on the river? A. She was not running in April 1865 I think she came on within a year after that time

Q. What was the next largest steamer before her?

A. The Chrysopolis

Q How much more freight would she carry than say, the Senator, the New World, Well, just state how long the Capital continued in this trade between San Francisco and Sacramento?

1074 A She continued in the

trade, until they were sold, the line, to the rail road Company, I think about 1871. Both her and the Chrysopolis

Q. From the time she went on until she was taken off, did she make regular trips between here and San Francisco, three a week?

A. Yes sir, except when she was hauled off for overhauling. The Yosemite was used in connection with the two boats.

Q. What was her tonnage?

A. Her tonnage was about 1600 tons if I remember right. I have not her figures.

Q. What was the tonnage of the Chrysopolis

A. I have not her figures but I think it was about 1100 tons. She tonned a little less according to the Custom house measurement than the Yosemite. I have the Yosemite (refers to a book)

Q. When did the Chrysopolis

1075 come on the river, and when

did she go off?

A. I cant give you the Exact date that she came on but about somewhere, I think later than 1860, but about, not much later

Q. Just repeat that again

A. I think it was later than 1860 when she came on but not much later. I wouldn't be positive though as to the date

Q. Who was the first Captain of her?

A. Captain Chadwick

Q. He is now dead, isn't he?

A. Yes sir

Q. How long did he remain Master of her?

A. Until April 1865

Q. Who became Master of her then A. I did

Q. How long did you remain Master of her?

A. Until she was hauled off in 1871, I am pretty sure it was

1076 Q. During the time you were

Master of her, did you make regular trips between San Francisco and here? A. Yes sir

Q. With cargoes of fruit and passengers? A. Yes sir

Q. What time did you leave San Francisco and what time did you generally get here?

A. We left San Francisco at four o'clock, we would arrive from 12 to 2 o'clock at first. Latterly in low water seasons we were barred sometimes would not get up here till 10 or 11 o'clock the next day

Q. But on an average the year round?

A. The average would have been not later than 3 o'clock the next morning after leaving

Q. What was the general size of your cargoes, how much freight did you generally carry?

A. Her largest load as I remember was about 800 tons

Chrysopsis 6 ft high —

The Capital claimed to beat that a hundred tons.

Mr. Catlin Q. While you are on the subject of tonnage just give the draft?

A. The draft of the Chrysopolis is six feet forward light not quite that aft. The Capital was light draft

Mr. Cadwalader Q. What were the dimensions of the Capital?

A. I dont know that I could give you the Carpenters measurement of her hull. I remember this that she was over 290 feet, that is over all, in length

Q. And what was her breadth of beam

A. And her breadth, that is taking the full width of the guards was about Eighty feet

Q. About as long as one of these blocks, and about as wide as a street?

A. A pretty good street.

1078 Mr. Catlin Q. What was her

length?

A. Over 290 feet in length that is over all, her width was about eighty feet, that is from outside to outside of guards and all. I judge her hull, I cant state positively to have been some where near fifty feet

Mr. Cadwalader Q. They were side wheeled steamers were they, both of these?

A. Yessir

Q. Before the construction of the Chrysopolis what was the largest boat running here?

A. The Senator probably would have been called the largest. I think the Antelope would have carried more freight perhaps

Q. Both these boats are running now, are they not?

A. As far as I know, they are

Q. The Senator is running I believe in the Coast trade

1079 Mr. Catlin. Well, state what

you know about it Captain Foster?

A. I have seen, I think, them both within the last few years, I couldnt state definitely

Q. Hasnt the Senator been overhauled and made nearly double her former length, reconstructed?

A. She has been built upon. She has a deck

Q. Hasnt she been lengthened in her hull?

A No sir, I think not, not to my knowledge

Q. Do you know whether she has or not?

A. I dont know. I am quite positive she has not

Mr Cadwalader Q. When did you first notice any material obstruction to navigation of the river, the Sacramento river, below the mouth of the American?

A. The first trouble that

1080 we had was down at Hogs

back, that was before 1860.
I am sure that we used to
sometimes send lighter boats
down there to lighten the regu-
lar passenger steamers

Q. Hogs back is where the
heavy tides —

A. (Intg) Yes sir

Q. (Contg) Met the down
current?

Mr. Catlin. Let him state it

Mr. Cadwalader Q. Well, what
was the Hogs back shoal?

A. The Hogs back shoal
at first seemed to be a
hard pan. As it commenced
to shoal up it was a
sandy bottom

Q. Well, that was the
first obstruction?

A Yes, the reason of our
lightening of them was to
enable the steamers to come
with less delay on account of
passengers, mails, and so forth.
They could have crossed with
full loads at less than a
1081 half tide

Heacotts 1865

Q. And lighters were not really necessary?

A. They were not necessary as to the point of their getting to Sacramento at that time

Q. Only to enable you to cross at lower tides?

A. Yes sir

Q. Now, when did the next obstruction appear?

A. The next trouble, in fact the next obstruction was the Haacocks shoals

Q. Haycocks?

A. Haycocks generally called

Q. How far below is that

A. We call it about ten miles below Sacramento

Q. Well, when did the trouble first manifest itself there and what was the nature of it?

A We had to the best of my knowledge no trouble with the Chrysopolis at that point when I first took

1882 Charge of her.

Q. That was in 1865

A. Yes sir

Q. Crossed there at all stages of the water with full loads?

A. Yes sir, that is to the best of my recollection

Q. What changes have occurred there since 1865, at Haycocks Shoals?

A. Gradually shoaling up; the last of my running, I have seen less than five feet there at low tide.

Q. Any of it at Haycocks Shoals? A. At Haycocks Shoals?

Q. Well, how much of a shoaling would that be at that point from the time that you first knew the river there?

A. I cannot state positively as to my own soundings but from general report they could cross there at first at low water drawing thirteen feet.

1683 Q. What was the nature

Shaler R St —

of the fill in the bottom
there, if you know?

A. It was like sand, that
is, in the channel, at first

Q. Well, now has the
river changed since 1865, all
throughout its length say below
the mouth of the American?

A. It is shoaled at
times so that we could not get
above R. Street

Q. When did that occur?

A That was before the
Chrysopolis quit running here.

Q The steamboat landings
have always been at the
foot of K. street have they not?

A. There has always been
a landing there —

Q. (Intg?) Well, that was
the landing in early times

A. Yes.

Q. (Showing on map) And
this is R. street. There is
a railroad running on that
called Sacramento Valley?

A. Yes.

1084 Q. Central Pacific; by what is

First-hand

Called the Stockton route

A. I can name shoals where we have had trouble, I mention that as one. Then at the foot of the bend still in front of our landing here, occurred the shoalest water that we have ever had in the river

Mr. Rhodes Q. Foot of the first bend below the city.

A. I mean in the foot of this reach proper, in sight of the landing, that is before we got out of sight of K. street landing

Mr. Cadwalader Q. Well, whereabouts with reference to the present gas works?

A. From a quarter to a half a mile below there

Q. Well, that would be about the foot of Y Street would n't it? Y street runs north of the Cemetery?

A. It is just above a point in the bend as it
1085 shows now. The shoalest

water was on the crossing, in leaving the channel as ~~we~~ go down this bank (showing) crossing over to take the other

Q- ~~How~~ shallow have you know that to become:

Mr. Cattie. I understand that to be about abreast of Y street?

A- I dont know that I can exactly locate Y street

Q- Well you know where the City Cemetery is?

A- Yes Sir.

Q- That adjoins Y street Y street is on the north boundary of the City Cemetery?

A- It would be - well call it half way between the gas works and what used to be called the Halfway house towards Sutterville but above the point —

Mr Cadwalader - Q- It would probably be below there

A- Well I am guessing at that as near as I can.

Mr Cattie - Q- About how

for below the gas works, the present gas works, the new ones?

A- I said from a quarter to a half a mile.

Mr Cadwalader - Well that would carry it below Y street. Well it is not very material though.

A- No, its is above the point. It is in sight of K street landing.

Q- What is that shoal called?

A- I don't know that we had any particular name to that.

Q- You say there you encountered what?

A- The shoalest water that we have ever had, that was in the year 1875.

Q- How shoal was it?

A- At low tide there was about three feet of water in the channel

Q- In 1875? A- Yes

Q- What was the depth of

water there originally?

A- It used to carry this twenty four foot depth full down

Q- What is that?

A- We used to have at least twenty four feet in the channel there

Q- That shoal manifested itself you say, first in 1875?

A- Not first; that was the shoalest.

Mr. Catlin. I object to the question as leading

Mr. Cadwalader Q- Well when did it first give you trouble?

A- I dont think we ever had any serious trouble before that.

Q- When were the boats first obliged to stop at the foot of R street?

A- I couldnt give you the exact date of that, but at this season we landed our boats at Merkley's ranch for over four months to my knowledge

1088 We couldnt get

(up here with boats) such as the Amador and Julia which were running at that time.

Q- What class of boats do the Amador and Julia belong to?

A- They were lighter draught and smaller boats

Q- How much smaller were they than the Capitol and Chrysopolis?

A (Referring to book) The Amador's tonnage was 897.

Q- What was her length and breadth?

A- I wouldn't attempt to give that exact. My impression is that it was one hundred and eighty feet in length, and she was very broad, built wide.

Q- The Julia was about the same size, wasn't she?

A- She was smaller.

Q- These were the boats that succeeded the Chrysopolis and Capitol A- Yes sir

1089 Mr. Cuttini - I want you to

correct Mr. Cadwalader's statement to the fullest extents

The Julia you say was smaller?

A- Yes Sir

Q State how much smaller?

A- I think I have her tonnage here (referring to book) I dont find her tonnage here. I know it to have been considerably smaller though I can state what I put on her at one time in wheat; it was about two hundred and twenty five tons actual dead weight, that was

Q- After you left the Chrysopolis what steamer did you go on?

A- I went on to the Amador.

Q- How long did you continue to navigate her

A- I left as Captain in 1872, that is, I left the river to take charge, I think it was 1872. I am sure

Q- Did you ever take any soundings in this river here?

A- Yes sir

Q (Showing book) This is your letter book, is it?

A- Yes sir

Q- Here seems to be a letter addressed by you.

Mr Catlin, I have no objection to allowing him to look at the letters to refresh his memory.

Mr Cadwalader Q- Well here seems to be a copy of a letter addressed by you to Leland Stanford on February 28th, what year was that?

A- 1878.

Q- Did you take the soundings in the river that year?

A- I had them taken, That was under my instructions

Q- How long were the boats kept down at the foot of R street, through what years? A- I dont think I could give the date, they have been stopped there at different times

Drum at Hemcroft

we might get at it. Of course I could get those dates by taking time.

Q- Have any means been taken within your knowledge to improve the navigation of this river in front of this town?

A- To improve it? Yes sir

Q- What were they?

A- There was a dam built at the Haycock shoal.

Q- Who built that

A- It was built by the old Steam Navigation Company that is the California Steam Navigation Co.

Q- In what year?

A- I couldnt give you the year. It was repaired under my supervision after I took charge of the Chrysopolis I know

Mr. Catlin Q- What year did you say the dam was built to improve the navigation of the Haycock shoals?

A- I couldnt state the year now is. I remember to have

repaired it. I think it was the next year, after it was built and I was running on the Chrysapolis at that time, and didn't go on the Chrysopolis until after 1865.

Q- You think it was about 1865 or 6 then?

A- I judge it to have been perhaps 1865 to '67 somewhere's along there.

Mr. Cadwalader - Q- When was there a dam built to improve the navigation of this harbor? A- I ~~did~~ couldn't give you the date of that now

Q- Where was it built?

A- It was built, one dam on the opposite side, above the raise of R street

Q- What are the objects of wing dams?

A- The channel had shoaled, there was a dam built there. Then further down another one ran out. The object was particularly to deepen the water about R street.

Average fin as Sacto

Q- They were both built for the Yolo shore? A- Yes sir

Q- Those dams were not built before 1866, were they?

Mr. Beatlie. Let him state when they were built.

Mr. Cadwalader. Well, that is a short cut for it. It was built under an act of the Legislature that was passed in the spring of 1866.

The Witness. That would be somewheres about 1866. I could get the exact dates on that. Q- Now what changes have you noticed occurring in the bed of the Sacramento river since your first became Master of the Chrysopolis in 1865?

A- There has been a general fill all the way.

Q- With what?

A- Sediment, I call it.

Q- What will that average fill, be? A- I would say in front of Sacramento, not less than twenty two feet today

1094 Q- From the American river

down to the mouth?

A- From the American river down to say Y street I will say to the gas works that would be more definite-

Q (Juty) From the mouth of the American river to the gas works? A- Yes Sir

Q- Take the last ten years Captain, and describe what impediments you would meet with, in that river, during high water, say at the twenty foot stage?

A- Well we never had much trouble in high water after a flood. We have run aground once or twice with the water from ten to fifteen on the guage here, but that would be only temporary. That is on some washing moving bar.

Q- Well, immediately after a rise say, in the American what features would you meet with in the Sacramento say at the twenty foot stage?

A- Well, the first raise generally deepen the channel although there are bars forming at the same time. I can describe one; perhaps that is what you want.

Q- Well what is the character of the water after the first rises of the American?

A- It is very thick with the sediment.

Q- How thick?

A- I could describe the amount of sediment perhaps better by coming to something within my knowledge

Q- Well, within your own knowledge, state it in your own way.

A- In the raising of the Steamer Cora that was sunk at Walnut Grove-

Q (Juty) What year was it?

A- That was in May 1879.

Mr. Cutler- Captain, just speak a little louder, we can't hear you.

A- I am a little hard of hearing myself, too.

Mr. Cadwalader Q- State what sunk her in the first place?

A- She struck a snag, a short distance below Walnut Grove and came up there and attempted to lash herself to the bank, and get her freight off, but she filled, went over there. The outer wheel I remember measuring the top of her wheel house, was about eighteen inches out of water The inner guard forward was out of water as she lay canted over there. We raised her by trusses from a large bridge outside reaching to the main bank and when we got ready to lift her we found more weight than our work would stand.

Q- How long did you get ready to lift her after she had sunk? A- It was probably four days I think. I then, with two small steamers ran syphon pumps, a force pump and worked the mud off of her forecastle, and her guards. And as far as we could work in amidships off of the deck and managed it that way, gradually lifted her higher and higher; got her forward deck out, so it was assisted with a large pump and so we raised her, I put men, rigged platforms along through, as soon as they could get in there, I put men in it, shoveling in wheelbarrows, and wheeling out as she gradually came towards the top of the water. When she came out, when we finally got her out of the water — places on the —

main deck, where we could not get at it; for instance back in the ladies cabin was one place, sediment was three feet deep in there.

And with the water all pumped out ~~out~~ that time her guards, one of them was still in the water, a little, until we got this sediment off. After the water was all out of her I estimated the amount of sediment in her hold, that is, after her decks were clean — to be not less than 300 tons. One guard just cleared the water, after her decks were cleaned. The other guard was about a foot out. That is amidships, where it was nearer the water; that was the weight of sediment that held her down; It was in her hold.

2— She was on her regular trip from San Francisco to

Sacramento at the time she struck this snag?

A- Yes Sir

Q- Did you weigh any of this sediment? A- Yes Sir

Q- How A- I had a bucket, a cylinder shaped bucket 12½ inches high, and 10½ inches in diameter; the net weight of the sediment was 68½ pounds

Q- Do you know Col. Mendell of the United States Engineers?

A- Very well.

Q- Did you address him a communication on this subject? A- I did

Q (A paper shown) Is that a copy of it? A- Yes Sir That is a copy of my own handwriting from an impression taken in the book-

Q- You could look this up further in a day or two? A- Yes Sir

Mr. Cadwalader (Showing the paper to counsel on the other side) I attach no importance to

that.

Mr. Catlin. I think it is irrelevant evidence.

Mr. Cadwalader. We dont propose to offer it in evidence

Q- You communicated the facts you have stated, to Col. Mendell?

Mr. Catlin. That I object to. I dont care whether he communicated them to anybody or not. It is irrelevant.

Mr. Cadwalader- I suppose it is a part of the res gestae if your Honor please

The Court. You can ask if he communicated with him on the subject, without stating that he communicated any special facts.

Mr. Cadwalader Q- How far is Walnut Grove from here?

A- By river it is about 36 miles. That is, as steamboatmen reckon miles

Q- What is the condition of steamboat slough?

A- It is not navigable

now for larger steamers

Q- When if at all, did the Amador and Julia cease running?

A- The Julia was running the fore-part of last season

Q- By what class of steamers were those two steamers succeeded? A- By large stern wheels boats: larger draught.

Q- Have the side wheelers been all drawn off?

A- There are no side wheelers running, that I know of, on the river.

Q- Well, what are the largest boats now plying in the trade between San Francisco and Sacramento? A- The Apache and Modoc.

Q- They are stern wheelers are they? A- They are stern-wheel boats.

Q- How does their draught compare with the draught of the Amador and Julia and the Capital and Chrysopolis and Senator A- They are light, draw about four feet aft,

and about three forward.

Q- When loaded, how much?

A- They will carry four hundred tons; that is by marks, would be drawing five feet of ~~wh~~ water.

I know that to be a fact by actual test, in loading wheat.

Q- Do you recollect one of those large steamers being impounded up here?

A- Yes sir

Q- What steamer was it?

A- That was the steamer New World.

Q- When was she impounded?

Mr. Catlin. Was that the old New World?

A- The old New World, yes sir. That was in 1875

Mr. Cadwalader- What occurred to her? A- She was brought up here for general repairs in the spring, and before the repairs were made, this bar was shoaled that I was telling of down below the gas works, so that she

couldn't get out, She remained there until we got a rise.

It was the 16th of November that she was dropped down over the bar.

Q- She was impounded by the debris was she?

A- Yes Sir something

Mr. Catlin - What is that?

Mr. Cadwalader - That is the language of the Drainage Act Mr Catlin.

Mr. Catlin. Q- Did you answer in regard to that expression of Mr. Cadwalader that she was impounded by the debris, according to the language of the Drainage Act?

A- She was impounded if you choose to call it so, by this bar that was formed below.

Mr. Cadwalader Q- I will ask you if you know anything about the sinking of the barge Napa, at Sacramento?

A- Yes Sir.

1104 Q- When did that occur

and from what causes?
What were the attendant phenomena?

A- I dont know whether I could name the exact date but I have taken it from the record and given it to Mr. Cadwallader. It was in 1878, I think

Q (Showing a paper) There is your date - October 6th 1877

A- October 16th 1877. She was loaded with wheat from an up river barge, laying right outside of the steamer office, and during the night or towards morning the tide fell sufficient, to punch a snag up through her bottom, which caused her to fill.

Mr. Catlin - I didnt quite understand. Did you say she snagged?

A- By the falling of the tide. That was in reference to tides.

Q- By the falling of the tide?

A- Yes sir

Q- What do you mean?

1005

A- The tide ebbed and flowed here at that time to the best of my judgement about ten inches

Q- 1877? A- Yes sir.

Mr. Cadwalader- Q- Well, what were the attendant phenomena? This I believe you said occurred in front of the office? A- Yes sir

Q- That is at the foot of K street? A- Yes sir, come right below the steamer bulk as we call it. That is the steamer landing, right in the wake of that

Mr. Cadwalader- Your Honor was here in early times were you not?

The Court. I passed here in 1853.

Mr. Cadwalader: That is what I supposed.

The Witness: The tide has gradually run out There may be an inch or two at this low water, this season but not hardly perceptible; in

fact. I have not perceived that it has raised and fell at all this year, though others claim that it is an inch or two.

Q- How much water was this barge drawing at the time she was sunk?

A- She was drawing between five and six feet, I think

Q. And yet she sunk from striking something on the bottom? A. She was laying, she was loaded, over this unknown snag. As she was loaded evidently she was very close to the snag. She lay there over night and before morning she had settled sufficient to burst the snag up through her bottom

Mr Catlin. The snag came up through her bottom and she filled, I suppose?

A. She filled. She did'nt get clear down, because we had a steamer right there

File

and got to work with pumps
That is only in reference to
the tides, that I mentioned

<u>Mr. Cadwalader</u>. That is
with reference to what?

A- ~~To~~ the ebb and flow
of the tide.

Q- Now, go back to early
times. How much of a
tide did you have here, and
how far did it extend out?

A- The tides in early
days, in 1849, and after I
commenced steamboating
would be from 20 inches;
extreme tides, the best of my
judgement were near 30
inches

Q- How far up the
river would they extend?

A- They would extend
noticeably a third of the way
between Fremont and Knights
Landing. At Fremont we
used to judge there was a
full ten inch tide there. That
was after we commenced

running steamers

Q. Did they or did they not facilitate navagation?

A. Well above there might have been some benefit, very little one way or the other; not much.

Q. How did the river run in early times here say up to 1862? A. The current?

Q. How did the river run; What was the appearance of it? A. Well, 1862 it was not so clear; my recollection of the river is that it is gradually growing more rily in low water, from our early steamboating, but latterly it has been carrying very much more sediment.

Q. Say in the last ten years? A. Yes sir.

Q. Getting better or worse?

A. Well, it has been getting worse.

Q. What effect does the raising of the channel, the

water of the channel, have
upon navigation?

A- One effect is a very
great difference in the kind
of boats. No steamer could
make the time now that
they could in early days
even though they ran clear
of the bottom, because they
feel shoal water in all of
the reaches, where they used
to run free.

Q- What is the last
part of that answer?

A- No steamer could
make the time now that
they made in early days
particularly owing to the
filling of the deep reaches:
they fill the bottom now
that is the suction, all the
way; whereas they used to
run free in these deep reaches.
By feeling the bottom, I
mean the suction created
Not that they touch bottom

Q- When a steamer gets
close to the bottom, it

manifests itself in rollers running along the shore?

A- Well it is in the increase in the speed of the boat, manifests itself very perceptibly either on a side-wheeler or stern wheel. Their action is reverse, however As they strike the shoal, why with a stern wheel boat, the wheel revolves slower, as the stern settles most and buries the wheel, gives it more hold.

A side wheel boat forms a curve in the concave, so that the wheel has less dip in the water, consequently it turns faster, but in either case the speed of the boat is less.

Q- Have you noticed the occurrence of floods in the valley here? A- Yes sir

Q- Has there been any such thing as a general flood

A- Yes sir; That is the action of the floods at first; that is

1111 from a first general raise

Order of floods

doesn't all reach here at the same time. Our general floods occurring from continuous storms keep up the American and Feather after the Sacramento gets down. From observation, I judge the time to be, say from the highest water, when the American at its highest water is at the Sacramento - the Feather river would be here in about 15 hours, speaking of good sized floods or raises; the Sacramento river in about 48 hours; the American river generally, unless it continues raining, commences to fall before the Feather reaches here. Then it would raise a little; the river would commence to fall again quite perceptibly before the Sacramento would get down.

Q- You mean before the Sacramento would reach here?

A- Yes Sir

Q— Are you able to state at any time in the last 10 or 15 years, whether the bed of the river here in front of Sacramento has compared with the surface of the water in 1849?

A— In 1875 at the time of the shoalest water which was the last of September or about the first of October at the time we had three feet about on the shoal I speak of, on the gauge it stood over four feet above low water line we speak of; 4 feet, 2 inches.

The Court. Above low water mark? A— Yes sir. I could give those figures from facts; but I can't carry them in my head. I know it to have been over four feet on the gauge, showing that the sediment at that time, deposit at that time was over a foot above the surface water of 1849 at

low tide.

Mr. Cadwalader — Did you notice that bar at the mouth of the American river

A — Yes sir I particularly noticed it at the time of our highest water, last winter

Q — What kind of water does the American river send out? A — It sends out very muddy water at all times of year now.

Q — How muddy, when compared with the Sacramento immediately above it?

A — I couldnt state from any particular tests, I should judge in low water there was double the sediment in the water there that there is now in the river immediately above. Immediately above of course it is colored a great deal from Feather river. The upper Sacramento river being comparatively pure clear

Q — How is it in high water?

1114 A — In high water it would

show more color now

Q- Well how deep is the sediment

Mr. Catlin- You mean shows more color now than in high water formerly?

A- In dead low water, my general observation is that in general low water it shows more sediment than it does in the extreme floods.

Q. As compared with the Sacramento? A. Yes sir, although the amount of sediment coming down comes during the higher flood. That is the larger amount.

Mr Cadwalader- I will ask you whether you recollect when the new mouth of the American river was established. Do you know generally about that time? A- I could'nt state positively although I recollect the time they were excavating there. It was after 1862, because we run- the whole river was in the old bed when I made this trip

up to Patterson's

Q- You have seen a bar formed by the American river, haven't you, each year?

A- Yes sir

Q- How far down the Sacramento have you seen it come? A- I have seen it extend - the bar out of water down abreast of the Pioneer Mills, it would tail under the bridge, I mean to say, as it passed under the bridge, there was a little water over the bar, this same bar although there is the channel through the draw; it is deeper, yet the same bar is really continuous, and crosses over onto the Yolo shore below our Ways.

Q- That bar is in a bend of the Sacramento, isn't it?

A- The bank formerly was pretty straight. The East bank, old bank, is pretty straight along from the new mouth.

1116

Q- Rather in a bend?

A- I think I have your idea. Shall I state it?

Mr. Catlin. Yes, you describe it. That is what we want.

A- The new mouth - The American river now has cut away the Yolo bank, to the summer channel and even in high water when the American river is at full flood, extends across and follows down the Yolo shore and then bounds back, passing the center of the current about the center of the draw-bridge, in the highest stage of water. This forms rather an ~~high~~ eddy below the new mouth of the American. There is slacker water from that shore. On the day that is February 24th, when the water was above the 26 foot mark on our gauge that filled to within less than three feet of the top of the water.

Mr Cadwalader - That is

1117

when there was 26 feet of water in the Sacramento river running—

A (Intg) It would make the top of that bar, say about to our 24 foot mark, or the height of the 1849 flood:

2— For what length and breadth of the Sacramento river?

A— The extreme height was not a great ways below the mouth, perhaps, where the foot of the circle was. Then as it came towards the foot of the bridge it would be a little more water, although this killed the current, which called my attention to the fact of this bar being formed there. So it was perceptible on the bridge. I was on the bridge at the time that they declined to open the draw, and called the Engineers attention to the fact of

this bar being close to the top of the water The Dana came down that evening, and they wouldn't open the draw. Of course they didn't know what the trouble was. She rounded to ~~started to round to~~, and I expected to see her strike, and thought she did; but she changed; instead of keeping up her swing, she backed out. As she landed she came down and landed at the Pioneer Mill. I asked the ~~the~~ captain, if the boat rubbed, and he said she did.

The water then stood above 26 feet on our gauge.

Q- We had never had more than 24 feet of water before had we?

A- Yes Sir

1119

Q- What time?

A- In 1878

Q- Well how much did we have here then

A I think it was 25 feet eleven inches

Q- The highest before that was 24, was'nt it?

A- I am not sure in 1867 and '8 — I am not sure but what it reached, but I hardly think it did above the 24 foot marker. The big flood of 1881 and I stood just 24 feet

The Court Above low water mark?

A Yes sir; in my judgment the flood of 1862 at one time, that is at a particular time there was more water in the Sacramento Valley than there was this last big flood.

Mr Cadwalader Q How are these gauges arranged these water gauges? A I would like to state because I will be cross questioned on that I mean more particularly in the portion of the valley below Sacramento.

Q Below the American?

A Below the American, below Sacramento City, below the American river that the water didnt reach the height it didn't at the height of Grand Island, head of Steamboat slough; I had run a level there from March 1849 And I saw Mr Kercheval asked him; he and I established the mark. He

1121 told me that it didn't

Levies make Water Higher

reach the height; lower down it didn't reach as high as it did in 1862. The cause of that probably was because the flood was less out of the San Joaquin than it was in 1862

The Court Did the levees along the river there have any effect upon it?

A Yes sir. It has the effect of making the water higher in the river than it used to go or than it gets in the tules.

Mr Catlin I didn't hear what was it? A It has the effect, the levees, of making the water higher in the river. For instance, in our highest water here last Winter, the 4th of February it was two feet and a half lower or about that inside of the levee at Washington as our way

1122 Mr Cadwalader Well, the

velocity of the river would be much greater wouldn't it?

A Yes sir naturally.

Q There has been a good deal of conflict of opinion upon that subject, has there not in the opinion of engineers?

A I believe there has?

Q As to whether the discharging capacity of the river was increased by levees or not? A Well, I don't think there is any conflict as to its increasing the carrying capacity of the river by increasing the size of the levees. It is a well known fact that the deeper the stream the faster the current will run. That is the general principle, with the same incline of course

Q Well that runs up to what is called the sixth power don't it?

Mr Catlin The what?

Mr Cadwalader The sixth power. A I wouldn't attempt to

1123

argue any technical terms

Mr Catlin If Mr Cadwalader will explain it, or ask the Witness to explain it. I have no objection

The Witness I will let him explain.

< After discussion >

Mr Cadwalader Q When water is confined in levees it will rise in the centre won't it?

< Question objected to as leading; and not pressed >

The Witness I would like to state in connection with the forming of this bar that I spoke of at the extreme height, the action of the water at the same time in the centre of the channel that is through the draw; that same day although it was filling in the bar it was cutting out there very rapidly and did ~~put~~ cut out so that the dolphins floated away that had been

1124 driven down deep. It was

moving from there, still it filled in the bar. This bar above it disappeared to a great measure through this that as soon as the American had spent its force then in high water the upper river takes the natural sweep right over the bar.

Q And sweeps it away every Winter? A It keeps a wearing of it down till the water gets down so that the current gets too slack to move it. Then it seeks the deeper water.

Q And then it fills in every spring?

Mr Catlin State how often it fills in Captain. If Mr Cadwalader makes any incorrect statement in regard to that I wish you would correct it on the spot.

Mr Cadwalader Yes I charge you in the same way Captain, If I make incorrect statements, correct them

River deepens at fall floods

A My observation is that on all full raises the channel deepens. That is the channel of the river, the whole extent. That is the first effect. Then, as the river becomes full below, and recedes above, the current becomes slacker; then it begins gradually to fill in. We noticed this filling, that is speaking of the time I was running on the river first above Cachie Creek at Hogs Back and along there. Later in the season we noticed the shoal nearer Sacramento.

Mr Catlin When you speak of Cache Creek you mean Cache slough? A Cache slough yes sir above the Rio Vista

Mr Cadwalader Q When does the greatest deposit of sediment occur in the Sacramento river according to your observation? A The greatest amount comes out of the

American river during the first of an extreme flood; still that settles and leaves eddies along, although the channel at that time will have been deepened. This afterwards settles in the river as it washes down from the bars.

Q Does it keep changing.

A Yes sir, moving this bar below the bridge this season has been much lowered down; that is the extreme lower part of it is lower down now than it was when it first showed.

Q How in regard to the sediment deposit upon the banks of the Sacramento river below the mouth of the American, as compared with the amount on the banks prior to 1862? What formation if any has occurred on the banks?

A Below the mouth of

1127 the American there are high

bars formed under what we call points by the slack water. This what I have described immediately below the new mouth of the American applies to slack places under points, all the way down to lesser extent. The character I think you asked me - this white or gray sand, generally spoken of as white sand, in low water shows on these bars No - it commenced to lose that character after passing the Haycock shoals, there lighter sand showed on it.

Q Did you look at that? <showing bottle marked "Hodgdon gray sand"> That is Hodgdon gray sand?

A That is the characteristic of the sand here. As we go down river, the general bulk grows finer, more fine more of sediment or slickens, as you might call it

1128 It is a new term to me

Q When did you first notice sand of that character on the river? A I don't think I noticed sand as heavy as that until very late years.

Q How does it compare with the sand that was here in 1849? A I noticed but a very little sand below here in 1849. Above here, that is after we struck the Feather river, then we used to see this fine sand in 1849.

Q Did you notice any in the American river?

A I have been along the American here when there were times when they have been hauling of it out.

Q I mean in 1849 and '50

A In 1849 I couldn't state much about it. I wasn't up it in 1849

Q Did I ask you the question whether there had
1129 been any bar formed by the

American river in the harbor of Sacramento prior to 1860 that interfered with navigation?

A I think on the West side that it had shoaled on the Yolo side.

Q I mean on the Sacramento side. ^on the Sacramento side^ We had good water. I couldn't state from surroundings or anything positive, I don't think prior to 1860.

Q Do you recollect where the old Prison Brig lay?

A I recollect of seeing her there and could pretty nearly locate the point I presume.

Q About where was it?

A I would think it was a little — it was above I Street, probably not a great way from where the bridge is now. It might have been a little below.

Q Do you recollect Sutter lake A Yes sir

Q (Showing on map against wall) Do you recollect that as the outlines of the lake in early times? A Yes sir I remember it opening into the river.

Q There was a water channel?

A That is the water would wear it down?

Q Yes A I don't think there was any water that flowed out and in at low water but it was down about level with the — according to my recollection.

Q Level with what?

A About a level down near the level of the low water mark in 1849.

Q Do you recollect the slough system of the Sacramento river in early times?

A Yes sir.

Q Explain to the Court the slough system of the Sacramento river; what they were, and what offices they performed?

1131 A The tules I would call

it from the river, were generally called sloughs.

Q What did they do in high water? A They had a tendency to relieve the river to a certain extent during extreme floods.

Q What did they come with?

A They generally that is those that I am now speaking of were openings running back into the lower lands, the tules

Q Into the tules?

A Yes sir

Q Were they quite frequent along the bank of the river

A Below here, not very frequent.

Q What office would they perform when the water got lower? A There is some of them, the water returns again to the river.

Q Returned to the river?

A Yes sir I might say all of them. That is, when we take Cache slough in connection

1132 with the others, Cache slough

that would generally relieve the water —

Q <Int'g> Which would generally flow most rapidly; the water in the river or the water in the tules? A The water in the river

Q That would enable the tules to return to the river.

A Yes sir

Q Through these sloughs the water—

Mr Catlin Well let him explain it Cadwalader.

A The first tendency of these sloughs is to relieve the river that is I am speaking of sloughs in the upper portion of the river. After the ~~ac~~ cumulation of water in the tules, even before the flood or the river recedes. If the accumulation is very large it seeks an outlet at Cache slough above Rio Vista. There is where we might say that the heaviest body of water in time of flood

1133 runs out of Cache slough

There is really more water or used to be more levees running out of there than ran in the main river in time of extreme floods. There are other sloughs, one immediately above Knights' Landing, at Knights Landing where the water recedes a large basin on the West of the river and North of that point seeks the river again through that. The drain between the two rivers comes into the river immediately above that — that is known as Fremont; that is the mouth of the Feather river.

<u>Mr W. C. Belcher</u> When you say between the two rivers you mean the Sacramento and the Feather? A Feather river.

Q What effect does the raising of the river channel have upon the subject of the concentration of the water during the low season, low
1134 water season? A If you might

take that in two senses. You mean if the river is raising?

Ans. Well, my question was directed to low water.

A It spreads the bars. That is the action of high water as the water first becomes down, so we notice the shoals, it is spread more from bank to bank, later in the season sometimes although the river may have fallen considerably we have a greater depth of water in the centre of the channel later in the season. That is not always the case but pretty generally the case.

Q How was the water in front of this City in early times, extending from bank to bank? A It was in places on this shore; it would range more than 24 feet more than that. It would carry to the best of my knowledge about

1135 24 feet from bank to bank

Q What was the character of the shores? A They were quite bold then on both sides of the river except opposite, if my memory serves me right about opposite the mouth of the American river; there was a kind of beach on the Yolo shore.

Mr Catlin Beach called Fisherman's Beach wasn't it?
A I think it was called that. It was at that point at any rate where they were completing the Comanche

Mr Cadwalader How high were the banks as a general thing above the water.
A I should judge here from 18 to 20 feet; probably in 1849 near 20.
Q Do you know what is called a lumpy river?
A Yes sir.
Q What is it?
1136 A What we call a lumpy

river is generally on the first raises when the sand moves so rapidly, then in places for instance like on Haycock's shoal although there might be a good deal of water in the river we would find something like a floating island immediately in the Channel. This might be there one day and the next, that is so that a steamer couldn't run over it, and the next day it might be the deepest water.

Q What effect does it have on a steamer as it comes up? A Well, we fetched up there with the Chrysopolis on that same bar, I remember and came very near killing the pilot at the wheel. That was one effect.

Q How? A By throwing of him

Q Throwing him against the wheel? A Yes sir and

E.F. 1137

the small striking the rudder behind. The wheel took advantage of it, threw him over the wheel, and very nearly killing of him. The general effect was that it knocked people down through the cabin but no serious damage

Q- That was when you were running on the Chrysopolis?

A- That was on the Chrysopolis

Q- And that was after 1865? A- That was after 1865

Q- That is what all steam boatmen call a lumpy river is it not? A- Yes Sir

Q- And it occurs in the highest stages of the water?

Mr. W. C. Belcher- Let him tell.

A- That I stated that it did occur on the-

Mr. Wilson (Juty) Isnt that a misnomer? Oughtnt it to be bumpy? A- Lumpy.

Q- It ought to be "bumpy" oughnt it? A- In one

1138 sense, it was a bump-

Mr. Catlin – The Chrysopolis bumped on a shoal on this occasion, did'nt she, pretty suddenly, so as to throw the pilot over the wheel?

A – Those are perceptible That is, to an experienced man, used to that kind of water before we get to them. I noticed the time we fetched up –

Mr. Cadwalader – (Intg) Where is the mouth of the Sacramento proper?

Mr. W. C. Belcher. Let the Captain tell.

Mr. Cadwalader – Excuse me

The Witness – (Continuing) I saw this lump we struck on Probably in time to have cleared it, but the pilot knowing that to have been where he run the day before insisted on going there, and fetched up. I had warned him though, to keep clear of it

1139 Q – Was that right in the

channel? A- That was right in the channel, on Haycocks shoals.

Q- Where is the mouth of the Sacramento river, proper?

A- It is below Collinsville the channel leaving the Sacramento, the deepest water is below Collinsville, there.

Q- Into what body of water does the Sacramento river empty? A- The San Joaquin and Sacramento come together there, I will state, though, the two rivers are connected above; the first connection is Georgiana Slough starting out immediately below Walnut Grove; in high water our water goes through there into the San Joaquin; also now; through what is known as Three Mile Slough, below Rio Vista. There used to be another outlet, called the Jackson Slough, but in higher

1140 water the overflow, the tendency is —

towards the San Joaquin consequently in a high water the mouth of the San Joaquin would contain Sacramento water before the two rivers joined.

Q - Captain, does it take as much water to make an overflow in this section of water, as it used to?

A - Not so much to take it out of the river, in my judgement.

Q - Have you noticed the velocity of the American river where it joins the Sacramento at times?

A - There has been times - I couldn't state positively whether I have laid above the bridge on account of it but I know that boats, have at different times right on the first of a big raise out of the American - sometimes they would lay by, six or eight hours above until it had spent its

1141

force. because the water Was so wild they were afraid to run through the draw, the first of the flood. before the Sacramento was filled it Came out very rapid ran very what are Call wild. But that would soon quiet down,

Q. were you here when Mr Hoagland testified the other day. of the effect of that Cross current on the waters of the Sacramento above?

A. I have not been here all the time that he stated the water ran, some-one ~~the~~ stated that it ran up stream above,

Q. Yes. A. Last winter he said.

Q I am referring now to his statement that it paralyzed the current of the Sacramento that is made nearly dead water? A. Yes Sir.

Q. Have you ever noticed that?

1142 A. That is always the Case.

with the first of the raise
it Kills the current there
I cant say that I ever
saw it run up stream, even
above that not out of the
influence, of what might be
an eddy

Q. Have you noticed the
waves made by the American
in crossing the sacramento?

A. at first even in the
old and the new mouth, the
first of the raise I think
the waves were caused more
from the break from the
bottom. I have seen them
Son waves,

Q. How High? A. Well, not
very high, I cant say that
I ever saw them running
very high but like the
riffle over the break of a
bar -

Mr Catlin, State how high
Captain - how many feet?

A. Well. unless they were
influenced by wind I dont
1143 think I ever saw any

American Crosses Lact

waves more than a foot high

Mr Cadwallader Q. But what you call a complete cross current?

Mr Catlin well. let him state what he calls it.

A. The first raise runs completely across that is what I would call the weight of the water, the strongest current shut off the water above. that is crossing well over to the yolo shore, well across to yolo - usually to Hoaglands place, I think they call it,

Mr Cadwallader. Q. Have you seen the American cause ~~the~~ the sacramento river to run up stream at the bridge in front of the pioneer Mills on this shore?

A. I have seen an eddy there, caused by the bar above.

Q. I mean at extreme high water, have you ever seen dirt alternately going up

1144 and then coming down?

A. above the pioneer mills at the old mouth, That is merely an eddy, It is merely an eddy though, The true current has never run up stream,

Q. What do you call it?

A. The true current of the river was not running up stream -

Q. I mean alternately running up and down in front of the pioneer mills?

A. In that extreme high water and until it has spent its force, the water whirls, as we call it. I can explain that by - I had steam on the dover, we had a barge hitched to the piling of the bridge This was february 4th and we saw the piling commence to move and to prevent the barge from going away that is the piling above I jumped aboard the boat myself - with steam and
1145 ran up and made fast

of the barge and cut the
line to the land now to
explain the surging. when
we let go of the line
the water would take us
right broadside for 100 or
150 feet towards the Sacramento
Shore, and by the time
we had got faced to head
that it would come the
other way - and we would
go away out again until
we got down out of
the influence of the action
of the water caused by ~~the~~
the bridge, That is what
we call surging. That will
affect the water ~~for~~ to some
extent at times at the
Pioneer Mill.

Q. What caused that?

A it was the unevenness
of the bottom and other
obstructions, It is the force
of the water. the extreme
course of the current the
effect that these obstructions
1146 have on it -

Q. Have you ever noticed the american river water say for ten or fifteen minutes, completely usurping the channel of the Sacramento river, below it, and then apparently moving off towards the draw and in the mean time—

Mr Catlin I will object to that question now before it gets any longer, as being leading.

Mr Cadwallader (contg) and in the mean time the current running up in front of the pioneer mills, soon within a few minutes. not to exceed 15 minutes to be followed by a flood of Sacramento water which would drive this american river out of the way and reverse the current in front of the pioneer mills?

Mr Catlin Now. I object to that question because it is leading and move to
1147 strike it out— I move to

strike it from the record I insist upon the objection that I first made, that it is a direct leading question containing every element of objection that could be possibly crowded into a leading question on the subject matters to which it refers.

Mr Cadwallader Then I will ask it in fragments.

Q. State any phenomena that you have noticed in front of the pioneer mills caused in whole or in part by the American river water during the flood stages, within the last five or six years?

A. I will state that the 4th of February last the extra commotion ~~of~~ in the water was caused then by an extra raise coming out of the American river

Q. What was the extra commotion and when did it manifest itself? A. in a more rapid

1148 current and the water

Surging as I spoke of which was the same date below the bridge - at a point on the wharf just below what we call the boat house there now even when we got in there with the barge, one moment she would start right ahead up stream. Then she would surge out and then again it would knock her so she would go down stream and we finally got in there and got a line, That was the general force of the water. The most of that was caused in a great measure by the piers of the bridge - I presume

Q. Has there been any difficulty in the last ten years at any time, or in the last 15 years, growing out of the circumstance that the bed of the river filled up in the draw of the bridge? A. Yes Sir

1149 Q. When? A. To the best

of my recollection. they had trouble there the most trouble in 1875 the same year that we had this bar below.

Q. what was the nature of the trouble? A. To the best of my judgement it was about that time,

Mr Catlin Between the draws?

A. Below the draws there were steamers that could not get through the draw— that could go to Colusa after they got through— without first taking there coal all out lightning them up all they could—

Mr Cadwallader

Q. How wide was the draw? A. The draw I believe to be about 100 feet wide now.

Q. what kind of steamers were they that had to take out their coal? A. Stern wheel steamers. I was trying to think of the name of one that I saw doing that. but

1150 I cant remember—

Q. was she a stearn wheel steamer? A. a Stern wheel boat with a barge in tow

Q. Steamer or Dinkey?

A. She drew more water than any boats that we ran above at that time, Capt Burke was in Charge of her, I might think of her name.

Q. what trade was she running in? A. She was going up in the vicinity of Colusa for grain. to bring out grain.

Q which part of the draw was that? A That was towards the east or Sacramento Shore The other side they could not go through at that time

Q. The other was entirely filled up wasnt it?

A. That is. so as steamers Could not go through there

Q. and each passage way you think was 100 feet do you?

A. The old draw was 80 feet. when they built the

1151 new bridge. I understand

that it was widened some 20 or 25 feet I dont know it to be positively the fact I never have measured it -

Q. I want to ask you this; by what means is the commerce now carried on. on the Sacramento river?

A. nearly all. by steamers and barges.

Q. The steamers tow the barges do they? A yes sir

Q. How much water do the barges draw?

A. our largest barge would float probably and take out on this stage of water a thousand tons of wheat on about four feet of water? not to exceed four feet and a half -

Q. How much do they light as a general thing - A. That one would draw about eleven inches she is rather heavier than some of our other barges

1152 are -

Q. When did those barges come into general use on the river; when were they first introduced; has the business done by them increased, have they increased in number? A. There was very little barging done until after 1855 or 1856, the barging then was all then you might say above Sacramento,

Q. There was no barging on the lower Sacramento at all

A. No not that early

Mr Catlin, what is the statement? A. The barging commenced sometime in 1855 or 1856, what we would call steamer barging but on the upper Sacramento mostly,

Q. You say yes. to the proposition of Mr Cadwallader that there were no barges used on the lower Sacramento

A. Not in general use that early.

Q. What date do you speak

1153 of? A. That was 1855 or 56,

Q. when did they come in general use between here and Sanfrancisco? A. I could not state the date that they came in general use.

Q. How was it at the time you were on the Chrysopolis?

A. There was some running on the upper river. I think infact I know there was at the time I was running on the Chrysopolis not perhaps when I first commenced running on it.

Q. Well I mean on the lower river? A. The lower river I understand.

Q. There was some running here when you first went on the Chrisopolis?

A. Not as a general thing There might have been some with lumber.

Mr Catlin. No barges where when you were on the Chrysopolis? A. I dont say there were no barges but

1154 I believe in the lower

portion they were not in general use when I commenced

Q. Not in general use on the lower portion of the river?

A. Yes Sir. The barging on the lower portion of the river increased in proportion to the amount of grain raised in the upper river - Latterly quite a large portion of the grain passes through on barges -

Mr Cadwalleader

Q What quantity of grain say for the last five years has passed this city or has come down the Sacramento river, on its way to Sanfrancisco?

A. The amount of wheat from the upper Sacramento river which has gone forward by water, for the last three perhaps the last five years has much exceed 100,000 tons a year. If it was necessary. I would much prefer to give actual figures

1155 Q. Well you Cant give

actual figures can you?

A. That is as to our portion moved and the comparative statement as to the balance.

Q. What other products of Northern California passed down this river? A There is a very large amount of broom corn raised; corn also; potatoes; not to a great extent as yet, not potatoes though, Hogs sheep, stock all come down the river That is I dont say all of them but a great deal come by the river.

Q. Wood? A. Wood - a large amount of wood has been brought out of the upper rivers, that is generally floated out on barges that are towed up by steam and floated down -

Q. Does not a large part of the produce of northern California pass from Knights

1156 Landing by mail?

A. There is Considerable The largest amount in any one season was a little over 60000 tons of wheat that was shipped that way, I could not give the figures as I said before I cant give it exactly from memory

Q. That has all been under your observation?

A. Yes, Sir. That is. and under my control and management That we sent that much by way of Knights Landing, I know, over 60000 Tons. But when I speak of the general amount coming out of the river I include that

Q Did you mention wood

A. You spoke of wood. Yes Sir.

Q. Did you mention Fruit?

A. I did not There is not a very large amount of freight shipped out of the Sacramento. I think

1157 That the freight never has

exceeded, say from 50 to 100 tons in any one year.

Q. Since you have been Superintendant of the Railroad Companys Steamers how many Steamers and barges have that Company engaged in that business? A. Well at one time there steamers and barges exceeded thirty. I know they are much diminished I know. I could almost Count up some, This is taken from a list (producing Memorandum book) this book is dated 1875.

Mr Catlin I suppose you dont want him to enumerate them do you?

Mr Cadwallader No. I just want to get it generally

Q. How many were running on the river?

A. I have had as high as six Steamers running in the grain business above Sacramento. Six Steamers

1158 and barges at one time.

each Steamer with a barge
Mr Cadwallader. as a matter
of fact. river freights are much
lower than Railroad freights
are they not? A. Yes Sir.
Q. What other steamboat
lines have been running say
in the last ten years en-
gaged in the same business
as the Central pacific Rail-
road Company? A. There is
the Sacramento wood Company
are the most prominent
Q. They have had how many
Steamers in the last five years
A. They run two Steamers
They have this year two
Steamers above Sacramento
with barges. and one running
from Sacramento to San francisco
the one below doing all
the work that the others
do above
Q. How many barges have
they got? A. I think they
have about eight or nine
Somewhere along there would
1159 Say more than six; I am

Sure-

Q. There have been other Steamboat lines have there not?

A. Yes sir There is a line that has moved a good deal of wheat. we Speak of it as Miller & Eatons line- They are called I believe the California Steamer and Transportation line, I perhaps havnt got it correct but they are known as Miller and Eatons line among Steamboat men and all river men they being the principal owners and managers.

Q. What has been the character of the up freights on this river from San francisco to Sacramento? A. General Merchandise by the regular Steamers and barges. The City Lumber yards are furnished

Q everything entering into general consumption and use in northern California?

A. Not now, in northern

1160 California but everything

that generally enters into
the Consumption of Sacramento
City and immediate surroundings
Q. While you were master
of the Chrisopolis which you
say was from 1865 to —
A. 1871. About that
Q. What would your Cargoes average?
A. I remember averaging — I think
it was some five months, Commencing
through the fall of the year, that we
averaged about 500 tons to a trip.
Q. That is the time we need the most
water in the river the fall of the year?
A. Yes sir, the heaviest business
used to be in the fall and spring
before the railroads were so nu-
merous as they are now — Now
the business is more equally
distributed throught the season
Q. In mentioning the downward freight
did you mention wood?
A. I did not
Q. Hides? A. There is a
good deal of wool Comes down
the Sacramento river now, not
so much as formerly though before the
1161 railroads got so far north —

Q. How much of a crop from 1880 was there raised ~~between~~ within or that would naturally go to the Sacramento River for market?

Mr Catlin Q. are you capable of answering that question; how much of a crop was raised?

A No sir, not strictly I could simply give an opinion That is all

Mr. Cadwalader Q. Well state whether it has not been your business to examine into that question?

A. I can state without going into details that who have

Mr Catlin. You need not state the amount. I object to that question

Mr Cadwalader Well, I will show that each year he has gone up and looked into that question, and that has been part of his business.

Q. State what your means of knowledge have been ~~in~~ regard to freight, the grain freight which

1162

has offered itself for transportation down the American River?

A. The largest amount of grain moved in any one season?

Q. No state your means of knowledge

A. I am intimate with all grain buyers and large dealers I know a great many farmers and small owners.

Q. You are the Superintendent of all the steamers of the Central Pacific Railroad running on the river are you not?

A Yes sir, I make it a point to ascertain as near as may be what I expect to come out during the season.

Q. You regulate the freights don't you? A. The amounts?

Q. Yes sir. That is you have controlled the freights for several years?

Q. You have controlled the steamers and freights?

A. I have controlled more particularly the up river steamers

1163 Q What has been your business?

A. Yes, sir, Almost entirely under my supervision, of course I am subject to orders from the General office.

Q. You know the place where grain is raised on the Sacramento River, don't you?

Mr Catlin. I object to that Do you mean to say you know all the places where grain is raised?

A. All the general places the prominent places

Q. You know the more prominent ones?

A I have been over the country?

Mr. Catlin. Mr Cadwalader makes you state that you know the all

A I don't wish to state that. I know every acre that has raised grain

Mr Cadwalader Well, I will come at it in this way;

Q. Do you know Colusa as a wheat shipping point?

1164

A Yes sir
Q. Do you know Butte City?
A Yes sir.
Q, Princeton? A Yes sir
Q, Jacinto? A, Yes sir
Q, And what other wheat shipping points are there on the Sacramento? A. Monroeville Walshe's, McIntosh's
Q, Chico?
A Chico Landing. Well that is only the more prominent ones. Of course we take wheat from any point where they bank it
Mr Catlin. Q, They frequently bring it to the bank of the river and you stop there and take it?
A, At any point along the river
Mr Cadwalader Q. Don't they haul it into the river and pile it up? A, Yes sir
Q, Immediately after threshing?
A, They generally commence hauling soon after threshing commences.

1165

Q. What time does that wheat have to be taken down to market?

A. The average season would commence the movement say in the middle of July and extend to the first of November. I am speaking of that as about an average of what we call the wheat movement of the bulk of the wheat.

Q. The wheat has to be transported during the low stage of water in the Sacramento?

A. The bulk is of it is - not that it has to be. We are moving wheat.

Mr Catlin (Intg) Well that is a class of examination that I shall be compelled to repeat my objection to.

The Court Try and avoid suggestive questions

Mr Cadwalader At these points, year after year, Captain what would be the quantity of freight - of wheat offering itself

1166 for transportation down the river

between the close of harvest and the commencement of the rainy season?

A. I could not approximate very close the amount from each point. The most wheat that we with our own boats moved in any one year was over 80,000 tons.

Q. How much did you move in 1880? A. I think less than 60,000 tons. I can produce the figures

Q. What quantity of the total amount of grain would your line move? A. Less than one half I think, last year.

Q. Well, as a general thing?

A. Taking it for a term of years, say to go back to 1872, we have moved more than half, probably two-thirds

Q. How many sacks of wheat does it take to make a ton?

A. Fifteen in the way we average

1167 Q. Have you any idea what

quantity of wood comes down the river? A. I could not state particularly. The Sacramento Wood Company, I believe move from 2,500 to 4,000 cords a year, There are other wood companies.

Q. Now in regard to the movement of live stock by water down the Sacramento?

A. Sometimes they are moved on barges, quite full loads. Ordinarily the shipments are not over frequent.

Q. Corn and wool?

A. Corn and wool are comparatively light in relation to our wheat shipments.

Q. What has been the commerce below this city with San ~~paratively light in relation to our~~ Francisco? ~~wheat shipments~~

A. That is down freight?

A. I don't mean the commerce of Sacramento but the commerce from the shores.

A. There was vegetables and fruit. I think they constituted

1168 the harvest.

Q. Have there been at late years at any times back running in the fruit trade?

A. Yes, sir, Outside of what we carry on our boats now we make pretty generally landings where they bank it — outside of that in the first season there is a daily line of boats running exclusively in the fruit and vegetable trade

Mr Cutlin. Q. Just state while you are about it where they run, from what points, the fruit trade boats.

A. The upper point of their general landing is just below Clarksburg, although they come at times above that, but I think they always come to that point

Mr Cadwalader Q. Your boats have always been in the habit of making four or five landings between here and the mouth of the river, have they not? A. Yes, sir

1169 Q. From time immemorial

almost. A. Yes, sir

Q. Are there any boats running in the fruit trade in Sacramento now?

A. There are boats running in this fruit and vegetable business exclusive of ours, the same company, they run boats the year round, in the dull season, only one boat.

Q. How high up do they run up them?

A. I say I think their regular point is just below Clarksburg, although they come above that at times.

Q. How far is that from here?

Mr. Catlin That is during the fruit season, I suppose?

A. During the fruit season.

Q. How far is that from here? A. Well, by the river steamboat miles we would call it eighteen miles, about that

Q. When did they first commence planting orchards

1170 along the banks of the Sacramento River?

A, They commenced quite early. There were orchards bearing fruit at the time I commenced running on the Crisopolis, before that.

Q. How many orchards at that time do you suppose there were on the east bank of the Sacramento River between here, and say Walnut Grove?

A. Well, it would be hard to reckon them by the mile

Q. I mean along the river bank. I will ask you if it was not almost continually an orchard?

A. Well from say Hollister's down, I should say that they covered more than one-third of the frontage on the river to Walnut Grove. I should say, from Hollister's to Walnut-Grove

Q. How far would that be? A. By river steam-boat miles, about ten. I qualify that because I know the surveyors have very much interfered with our old method

1171 of reckoning

Q. What do you call a steamboat mile? Does that make any difference?

A. Because they would hold out

Q. As the river runs?

A. Actual survey will shorten them. I speak of that as our record. The way we formally reckoned miles, actual survey will shorten it. The miles will be much less

Q. How is it from Hollister's up to say Y. street in Sacramento?

A. Well, there is a good many orchards, but not so continuous

Q. Not so close together

A Not so close together

Q. Well is there a farm between Hollisters and Sacramento that, as late as 1865, 1866, and 1867, did not have an orchard on it?

A. I could not say that there was or was not

Q What is your general impression?

872

Mr Cattin. I object to that

Mr Cadwalader Q. How was it on the other side of the river and the islands?

A. There were a good many orchards on Grand Island and above Grand Island or Steamboat Slough on the west side there were a great many orchards along there?

Q. Did you have an opportunity of observing the fruit that they bore?

A. I have. Not particularly in the last few years, but when I run on the river there we used to carry some considerable fruit then.

Q. Have you observed the effect upon the lands inside the levees produced by what we call up here, seepage water?

A. I know that there have been trees killed by water standing around the roots.

Q. Where does that seepage water come from?

1173 A. That would come from the

river.

Q. What causes it?

A. The water being so much higher in the river. The levees now hold the water up to a higher point above the natural bank than it used to during high water which would make the seepage greater.

Q. I will ask you, Captain, whether going down the river and being on the hurricane deck of the boat, you do not, both in high and low water have a full view of both sides of the river?

A. Yes sir practically so.

Mr. Catlin Q. Do you have it at low water, a full view?

A. Except where there is high timber along the banks. In low water, we overlook ~~a full view~~ ? the banks from the hurricane deck, particularly from the pilot house.

Mr Cadwalader Q. Your duties always required you to be there when the boat was in motion.

1174 A. I used to generally be

in the pilot house or on the hurricane deck. That is at all points above Rio Vista.

Q. Have you noticed any movement in the line of what we call the tules towards the river bank in late years?

A. I have noticed that they are not as close to the bank in some places as they used to be.

Q. Well how are they in other places?

A. I account for it by their being fed down more by stock.

Q. Take the water line, the line of the interior water has or has not that been gradually approaching the bank, particularly at what is called the planting season?

A. Not generally, I don't think. Sherman Island it has nearly covered that now. That is, there is not nearly as much land in view as there used to be.

Q. I mean on the margin
1175 of the Sacramento, on each side

A. I understand

Q. East and west of the banks?

A. All of these tule bottoms are drained towards the last of the season in any event

Q. I mean in the beginning of the season, the planting season say?

A. In the planting season there is seepage water shows nearer the bank than it used to

Q. Do you know what is called the pocket in Sacramento County? A. I understand the pocket to mean the bend of the river below Riverside that is, between that and Freeport

Q. It is about eight miles of river? A. Yes sir, I should judge so

Q. Do you know where the Whitely Ranch is?

A. I could not say that I do. I know there is such a ranch, there are many locations that I know that I would not remember the names. I have

not run there for several years

Q. Do you know what effect this seepage water has had upon the cultivation of the margin of the Sacramento River

Mr. Catlin I don't think that the Captain is a a farmer and he has not been engaged in any occupation that would qualify him to testify upon that subject

A. Excuse me. My remarks would have about covered the objections which you have raised

Q. How?

A My answer would have covered the objections which you have just made

Mr Cadwalader Q. How late does the water stand along the margin of the rivers?

A. The line of the tules?

Q. Yes?

A Regardless of Seepage water?

Q. Yes. A. Of course it varies some seasons into June

1177 and even into July in some

extreme seasons.

Q. Is the season now earlier than later than it used to be? A I don't think there is very much difference taking the larger basin on the west side.

Q. Well take the east side

A. On the east side I don't think it drains so quick

Mr Catlin Q. On the east side you say you don't think it drains so quick?

A I think not, because the drainage from the west side is good through Cache Slough. There is no reason why it should not go out about as soon now as any season before. On the east side the drainage is not so good from obstructions that prevents it:

Q. Obstructions that have been built there?

A Yes, sir, one notably

1178 is the bed of the old railroad

that was run down to ~~Freeport~~
Freeport

Mr Cadwalader I will ask you if you were called upon at any time to make a report upon the subject of the filling in of this river with debris and whether you made such a report?

A. I made a report to Governor Stanford

Q. At what time was that?

A. That was in February, 1878

Q. Is that a copy of that report (producing report.)

A. Yes sir

Q. Stanford at that time was President of the Central Pacific Railroad Company?

A. Yes sir

Q. And you were cont~~inually~~rolling the steamers on that river for the Company? A. Yes sir.

Q. Upon the river?

A. Yes sir

Q. These were the same steamers
1179 formerly owned by ~~the~~ California

Pacific Railroad Company?
A. Yes sir.
Q. And before that time by the Steam Navigation Company
Q. The California Steam Navigation Company it was called?
A. Yes, sir

Mr. Cadwalader We offer that report.

Mr Catlin I object to it as irrelevant, and incompetent testimony.

Mr Cadwalader My report to that is that our position is the same as in regard to that communication of Colonel Mendell. We offer it. It is current history. It is part of the res gesta, but we do not want even the suspicion of error to get into the case. In other words we want to be very cautious.

The Court Well, don't urge it then if they object to it

(Recess until 2 o'clock)

1180

Afternoon Session

Direct Examination of Albert Foster resumed

Witness. I have taken a statement showing the number of pounds of freight carried by our steamers in the year 1880, since I left the stand. That is the footing of the amount [showing]

Mr. Hart 269.172.166 pounds

A. Yes

Mr. Catlin. You have ascertained since the recess that the total amount of up freight and down freight in the year 1880, carried by the steamers of the Central Pacific Railroad Company is 269.172.166 pounds?

A. The actual amount of the two statements showed be less the number of pounds

1181 that I have put below there

Q. That statement includes 38.992.059 pounds which ought to be deducted from the total amount?

A. Yes.

Q. Because the last number includes freight that was transferred from the up-river boats at Sacramento to the lower river boats, and so it appears twice?

A. Yes.

Q. Dividing that sum by 2000. will give the number of tons will it not?

A Yes.

Mr Hart. How many tons would that make?

Mr. Catlin If you divide 269.172 by 2 you will come near enough the number of tons

Mr. Hart It would be 134. thousand and something

Mr. Catlin Yes; for the year 1880. Nearly 35.000 tons. That amounts to

1182 nearly 135.000 tons?

A Yes. I should think it was about that without making the figures

Q Throwing off the odd pounds it is 134500 tons I will first approximate it by saying nearly 135000 tons Now Captain, of that 135000 tons, 59000 tons were exclusively due to the up river boats? A yes.

Q Boats that went up the river how far?

A As far as Mackintosh landing

Q How far is that from the City of Sacramento by the river?

A It is a little over 200 miles, steamboat miles.

Cross Examination

By Mr Catlin Q When you returned from Parks Bar in 1849 in October you say you went to San Francisco? A yes.

Q How soon did you return to Sacramento?

A From San Francisco?

1183 Q Yes.

A. Not until I think in
March of the next spring.
Q. March 1850?
A. Yes, March or April.
It was in the spring of 1850
Q. What was your occupation from that time forward?
A. From 1850?
Q. Yes. A. I went into the mines again; that is, first up Feather river
Q. How long were you in the mines before you returned to Sacramento?
A. I cannot state, the first time I returned. I was there through the most of the summer; I was in Sacramento in the fall.
Q. Then you were in Sacramento frequently and a considerable portion of the time during the spring and summer of 1850 were you
A. No. I was up there the most of the summer. I came to Sacramento from
1184 that point – Feather river,

It was the first part of the fall.

Q. When you arrived here in the Spring of 1850 how many vessels were there of the class of ships, barks, brigs and Schooners lying in the harbor of Sacramento?

A. I should judge, including the deep going vessels there might have been twenty-five or thirty

Mr Hart. By deep going vessels you mean sea going vessels?

A. I mean vessels that came by sea.

Mr. Catlin. Vessels that came by sea! Now this Schooner you spoke of, about fifty tons burthen; she came around Cape Horn did she?

A. Yes around Cape Horn

Q. So when you speak of sea going vessels it does not necessarily imply a

1185 large vessel does it?

A. No.

Q. A 50 ton schooner was not a vessel of unusual draft or tonnage to come around the Horn was it?

A. The most of them were of larger size. I presume that would be one of the smallest size that came around

Q. And from that up to what would the tonnage of the schooner be?

A. I think some schooners would go over 100 tons

Q. Now then, the brigs, barks and ships, if there were any, and the class of schooners you have just mentioned, you say you think there may have been as many as thirty of?

A. Perhaps that. It is guessing. I should call it somewhere about that

Q. Is not that a full and liberal estimate?

1186 A. I should call it so

Q. Were you a seafaring man before 1849?

A. I have been to some little extent a seafaring man but not generally

Q. How many of those vessels did you see at the mouth of or in the American river at any one time?

A. I could not state positively that I ever saw more than one, though I believe I have.

Q. When you say you believe you have seen more than one how many more than one?

A. Well, not more than two or three I should judge at one time in there

Q. Did you ever see a square rigged ship, a full rigged ship in this harbor?

A. I could not say that I had.

Q. Would not the circumstance of a full-rigged ship

1187 being in this harbor in 1849,

1850 or 1851, have attracted your attention?

A. I do not know that it would particularly. The class of vessels that were here at the time, were very similar. They were either brigs or barks, or if they might have been ships they would not have varied much in size.

Q. You would have noticed the rig would you not? If you see a ship or a bark you would notice the difference very quickly would you not?

A. I would now. But it is a good way back to 1849 and 1850

Q. If you had seen it then would you not have noticed it then? You may not remember it now, but you would have noticed it then?

A. I think I would

1188 Q. A Bark is ~~schooner~~

rigged on the mizzen mast is it not? A. Yes

Q. That is the only difference between a bark and a ship?

A. Yes. A ship is square rigged on the mizzen mast and the bark is schooner rigged

Q. Now I will ask you, in the early navigation of steamers here by the New World, Senator, Wilson G. Hunt, Confidence and that class of steamers, whether or not they were not frequently detained on the Hogs Back

A. - I think they were detained some in coming up the river with full loads during early days. I could not fix the date though

Q. I will ask you whether it was not a very usual thing for those steamers to wait at Rio Vista below Hogs Back for the tide to rise so that they could pass Hogs Back without

1189

difficulty?

A. I can state definitely that I have known in the New World before she quit the route to lie at Rio Vista; that is old Rio Vista.

Q. For that purpose?

A. For that purpose?

Q. Well, cannot you state that there were some of those others, the Senator and those other steamers, at an early day waited there for the tide to rise?

A. I could not state positively in relation to the Senator.

Q. Were the Senator one of heavier draft that the New World was she not?

A. Yes.

Q. You speak of those steamers as being sea-going steamers. Do you mean by that, that they were built for ocean navigation?

A. The Senator was.

Q. And she was the only one was she not?

1190

A. The New World was built as I understand it Expressly to run in California; to run on this route.

Q. Built in the East?

A. Built in the East; built in New York

Q. And she was brought around Cape Horn under sail I suppose? A. I think she used steam and sail too perhaps

Q. Now was not the Senator built to run on Long Island Sound? A. She ran from New York to St Johns; I state that by information before she came here

Q. The others were built for inland navigation?

A. The New World was built and was launched with steam up and started from the dock for California

Q. Ran away from the Sheriff, did she not?

A. Ran away from the Sheriff so report says; ran

1191

away with him and put
him on shore
Q. Attachment and all
A. Yes
Q. How was it with the
Wilson G. Hunt and the Confidence
A. They were as I understand
it North River Boats before
they came here
Q. Hudson River boats?
A. Hudson River boats
Q. Built and used for nav-
igation on the Hudson river?
A. On the rivers
Q. They were brought around
here by the Horn?
A. Yes.
Q. They could not have got
here any other way I suppose
A. No, not well
Q When you went on the
Steamer Governor Dana up on
the American river as high
as Patersons, what year was
that? A. It was in
1862, in the winter of 1862
Q. Just think of it a mo-
ment, and see if it was

not the winter of 1852. Or was it 1862?

A. 1862. It was the time of the big flood here

Q. Do you recollect the time when the town of Hoboken was temporarily established?

A. I cannot date the time. But it was previous to this, to 1862

Q. Some time previous to the trip which you took?

A. Let me see. I would state that I think it was the winter of 1853

Q. 1852-3? A Yes

Q. On reflection, was not that time when you took your trip? Now I do not make this suggestion because I am sure I am right by the implication of my question, but I want you to reflect and see whether it was not the winter of 1852-3 when you went up to Paterson in the Steamer Gov. Dana & instead of 1862? A. No.

1193

Q. It was during high water was it not?

A. It was during high water - yes -

Q. How long did you remain there

A. We left here at 7 o'clock in the morning and when we arrived it was getting just about as dark was we wanted it when we went through the bridge but we made the trip out and back in a day

Q. Would it have been safe to have remained there any length of time?

A. They did run boats. I merely made the pioneer trip to start the thing going to establish the landing. My route then was from here to Red Bluff but I was selected to make the pioneer trip for our Company. That is why I know it was later than 1854

Q. I say, could you have remained there with safety for any length of time

1194 A. Yes. For a week or two at least

Q. Did it not fall rapidly?

A. It had fallen considerably out there at the time we got out

Q. Did you make any other trip up there in the "Gov. Dana"?

A. Not with her. I condemned her after, in fact. She handled a little too heavy. We next took the Gem. I cannot state positively whether I made a trip out on the Gem or not, but she was turned over to Captain Page and Page was acting as Pilot

Q. Was it not the Gem that was swept by the current over on where Agricultural Park is now?

A. Yes. Through a break in the levee

Q. She lay high and dry there for six or eight ~~nine~~ months did she not?

A. She was hauled on rollers to the river and launched. That was one way the Gem

1195 got back from her trip

A - Yes, that was one trip. She had been out several trips before.

Q. Was that as high as Pattisons? A. It was not. It might have been a mile or two this side, to be definite. We were in sight of the house.

Q. How long did that navigation continue? How many trips were made there by all the boats?

A. To the best of my recollection it continued several weeks. The Steamer Pike I think was running and the Sam. Soule I think.

Q. What was the difference in tonnage between the Gem and the Pike?

A. The Gem was a faster boat than the Pike.

Q. I say what was their tonnage?

A. The Gem's tonnage would have been less the 200 I should judge.

1196 Q. Well what difficulty did

you find if any in the way of navigation?

A. A pretty strong current and some places where the trees would be in the way

Q. Were there any bars?

A. There were bars where we landed, what the miners would call bars

Q. Could that navigation have continued any longer than it did had the water remained as it did

A. No, in my judgment they ran there as long as they could

Q. The big flood of 1862 lasted more than the usual length of time did it not?

A. Yes it did

Q. It occurred first in December 1861? A. Yes.

Q. The first high water

A. The 9th of December, I was in the City at the time, lived here

Q. The City was wholly overflowed, was it not?

1197

A. That was from the river coming in at the back part of the town

Q. I say, it was overflowed?

A. Yes

Q. And also again in January 1862? A. Yes, to a greater extent

Q. Was this in January or December that you went up?

A. It was in January or February, the best I can recollect

Q. Did the water continue high all through January and February of that season — January and February 1862?

A. We had what we call continuous high water

Q. State to what extent that overflowed the country here? how far to the west for instance, first?

A. On the west side it stood there. The little levees were gone. The

1198 water was about the same

as it was on the bar guage.
It appeared just the same.
It was all overflowed

Q. Your guage in the river?
A. That was in the river bank, twenty-four feet
Q. That is the river guage?
A. That is the river guage
Q. It was about that hight all over the country to the west of you was it not?
A. Yes, it was about on a level
Q. How far did that extent of water extend to the west?
A. I was not across during the flood but I should say it would extend to Swingles
Q. About what distance? about how many miles?
A. I would say seven or eight miles
Q. Then going on farther south down the river, how far would it extend there?
A. It would be wider. There ware places that I should judge must have

been ten miles, perhaps more

Q. Did it extend up the Sacramento river at that time? did you see how far it extended?

A. Yes, I was running at that time

Q How wide was this sheet of water there on the Sacramento river commencing a mile above here and so on up to the mouth of the Feather?

A. Taking it on the west side?

Q. Both sides

A. Both sides. I should think the general average below Fremont would have been not less than six or seven miles wide on the west side. On the east side in places in some places not less than five miles wide

Q. Well then it would be ten to twelve miles wide counting both sides

1200 A. Taking both sides, yes

Sleighs

Q. There were levees on the river at that time were there not, on the banks of the river?

A. Very slight levees

Q. There were small levees but there were levees?

A. They did not amount to much above but there were small levees at that time

Q. Had these sloughs that you speak of, the system of sloughs that open out, some large and some small, at different places on both sides of the river which acted in the early days to relieve the river when it was at its high stage, were they open then or had they been previously dammed up?

A. As we get up river some little distance I am sure that many of them were opened. There may have been some closed

1201 between here and Fremont

but I would not like to state positively

Q. As a matter of fact were not the small ones, those of smaller capacity, generally closed up previous to that time ~~by~~ while the large ones like Cache creek Slough and the large ones you mentioned near Knights landing were open?

A. I think not, in 1862 as I understand it.

Q. What effect has it had on the height of the water in the river since 1862 by the construction of levees upon the banks and by closing up the mouths of these sloughs

A. It has had a tendency to make the water higher in the river

Q. It makes the water higher in the Sacramento?

A. Yes.

Q. As I understand you the guage of the high water in 1852-3 was about twenty

1202

four feet. Was it you that said that?

A. No sir. I could not state what the height of the water was in 1852

Q. Well what was the height of the water in 1862?

A. In 1862 it was twenty four feet

Q. And last winter it was what?

A. Twenty-six feet and six inches plumb

Q. So it was two and a half feet higher at the gauge at the Company's landing in the Sacramento river in 1880-1 than it was in 1861-2

A. Yes

Q. And you think that was measurably at least caused by the construction of levees upon the banks of the river

A. I can state that I know it has made the river higher within the levees on the upper Sacramento above where there has been

1203

any filling in. The levees there I know has caused the river to get much higher than it did before there were any levees.

Q. You are speaking of the upper part of the Sacramento where there has been no filling in? A. Yes.

Q. You know as a matter of fact that the levees up there have caused the water in the river to get higher?

A. Yes.

Q State in reference to localities say from Knights Landing to the upper Sycamore Slough where you formerly observed it whether that has been the case?

A. It has particularly from a bend known as Three rivers, twenty miles above Knights Landing, particularly between that point — Well we can go clear to Princeton and see that it

1204 has made

Sacto clear above Feather

Q. How many miles by the river? A. That would be near 100 miles, steamboat miles

Q. And that is a portion of the river into which there has been no mining debris deposited?

A. No, none perceptible

Q. There is no perceptible mining debris deposited in the Sacramento river above the mouth of the Feather is there?

A. No sir

Q. The Sacramento river down to the mouth of the Feather has been and is usually clear water at the low water mark?

A. Much clearer than the other river

Q. The mouth of the Feather River is about how far above this City?

A. We call it twenty five miles

1205 Q. By the river

A. By the river, yes.

Q. In a direct line about how far is it?

A. I should say not over fifteen

Q. How far is Knight Landing below the mouth of the Feather river? A. It is above

Q. Feather river is marked on that map and I wish you would point it out to the Court upon that map, which the Court has in his hand. I think I saw it marked in the map in very small letters at a point on the top of the map

The Court. I see it

Mr. Catlin. Where the figures, township 10 North Range 3 East, are, there is where the Feather river comes in. Just state whether that is approximately correct.

A. I should call this a pretty correct outline.

1206 Q. Now Capt. Foster

State how much higher the recent floods, those which occurred within the last ten years have been on the Upper Sacramento than they were prior to 1870?

A To the best of my judgment we have not had any flood that exceeded the raise of water at Red Bluff in 1861-2, 1862 in height.

Q. Well take it from the Upper Sycamore to the Lower Sycamore Slough how much higher has the water in the river been that it was prior?

A. I should say that at points, three or four feet

The Court. Are those points above Feather River?

A. Yes.

Mr. Catlin Describe it to the Court, the distance in length

A. This map only takes Knights Landing in and they

1207 are talking about points above

Q. From Knights Landing up to what point?

A. I will state from Eddy's Landing to Meridian. I would say that it had raised there in its banks, three or four feet. It never stopped raising until the levees gave way in every case. The river has raised in that portion of the river until something gave way on either one side or the other

Q From Eddys Landing up to the point you have named, what is about the distance by the river?

A. It is twelve or fifteen miles perhaps, about fifteen miles

Q How far above Knights Landing is Eddy's Landing

A. It is about fifty two miles by the river

Q State whether it has had the same effect or not above that ~~point~~ bend

1208 or further below? how

far down the river has that been perceptible?

A. Below it never reached quite as high within the levees from the fact that the levees in that vicinity would give way before the height of the flood has got lower down.

Q. Has there been much leveeing on the east side of the river from a little ways below Eddys Landing?

A. Yes. There has been a pretty good levee extending down to Kirksville, or in that vicinity. Below there it is not as good

Q. From Kirksville down?

A. Yes. I can name one that is Low and Myers, that is known as the Winn ranch. That is remarkably well leveed

Q. Then I understand you that the stronger and higher the levees are the higher the

1209 water rises in the river

A. That has been my observation so far

The Court Do I understand that all of the debris that comes into the Sacramento River comes from the Feather River and the American?

A. Yes, all that amounts to anything.

Mr. Catlin It will be agreed doubtless that all the debris that comes into the Sacramento comes from the Feather and American rivers —

Q. The use of the water above the Feather river is not affected in any degree by any ~~dage~~ mining debris deposited in it, is it?

A. At low water now — That is the filling from the Feather river acting as a dam, backs up the Sacramento as far as and perhaps a mile, above Knights Landing and it is that far noticeable

Q <Int'g> And that comes

1210 from the Feather River

Commenced Shoaling

A. Yes

Q. Is there any other mining debris that ~~Castexx~~ affects the bed of the Sacramento river above that?

A. I should not suppose there was any below that point that would have affected it

Q. None that you have ever seen. Capt. Foster this Shoal known as Hay cocks shoals which you have described, state the earliest that they commenced forming in the bed of the river not the date when your boats first hung on it, but the date when it first commenced forming, as near as you can? When it was perceptible to the river navigators that there was a shoal there

A. It was perceptible at the first

Mr. W. C. Belcher. That was in 1849-50?

A. Yes, I believe that it has been shoaling very gradually ever since Steamboats

first commenced running, but not very perceptibly perhaps until near 1860 or somewhere along there

Q. How early was it that the old Steam Navigation Company constructed dams there to improve the navigation at the Haycock Shoals?

A. I could not give you the date

Q. Well, it was prior to the time when the California Central Railroad Company acquired this property?

A. Yes, it was

Q. State as near as you can now about how far back that was when the Shoal had got so that it was deemed proper to build wing dams there?

A. I would think that it was since 1865 that they built the dam. I would not like to state positively, though I could get the exact time

1212

Q. Didn't you see that is very indefinite. Last summer was since 1865?

A. I know. I have got to say that I can not recollect dates

Q. Your best recollection is that it was in the neighborhood of 1865 or 1866?

A. I should think somewhere about that. The dam that was built at Hogs Back I am quite sure that I was running when that was built. I think I was running on the Chrysopolis at that time. The dam that was built on what we call little Hogs Back was built I know when I was running on the Chrysopolis

Q. Where is little Hogs Back?

A. That is about a mile above Hogs Back, at a point now known as Walkers Landing on Grand Island

Q. Tell us about little

1213 Hogs Back. Tell us about

the character of that shoal?

A. It was at the time a sandy bottom

Q. When was it first noticed as being a shoal, when did it first get the name of Little Hogs Back?

A. We never had any trouble there at this point at that time. We had no trouble to go down stream with the steamers light, but it was in coming up after building the dam at Hogs Back and deepening the water there, that we could come up at low tide on Little Hogs Back which we had never before noticed because we could not get there before

Q. When was the earliest period that these things occurred?

A. I should think from 1865 to 1868 that we put the dams in

1214 Q. When did they first

commence improving the navigation at Hogs Back by the construction of dams. Was not that long before 1865?

A. I think not

Q. Are you sure it was not before they attempted — Did they build some wing-dams there prior to the big flood of 1865 on Hogs Back?

A. No sir I think not. I think it was after that

Q. When did railroad competition commence with river navigation first?

A. I do not know that I could give you the date

Q. Well, I will ask you did it not commence as soon as the Central Pacific Railroad made its connection with Oakland or San Francisco

A. Our competition commenced before they made that connection. That is the California Pacific was in operation

1215 Q. It commenced when the

the California Pacific rail-road first made its connection with Vallejo, did it?

A. Yes

Q. You dont remember the year

A. I could not state the year

Q. From that time forward did not the transportation of passengers on the river practically cease?

A. No sir, not practically but they reduced the prices

Q. Did not it reduce the carrying of passengers very much? A. Not very much at that time until after both roads got through. After both roads got through it did

Q. It was not long after the Vallejo road or the California Central road commenced before the Central Pacific made its connection by way of Stockton and Livermore Valley and Oakland, was it?

1216

A. Nothing, no sir

Q. Was not it soon after that that these river boats passed into the ownership and possession of the Railroad Co.?

A. My recollection is that they passed into the hands of the California Pacific in about 1872

Q. That was sometime after the Railroads got started?

A. Yes

Q. I will ask you whether that railroad competition

A [Intg.] I would say it was, I guess, from 1870-1871 that they passed into their hands. I was still running on the Chrysopolis at the time of the sale and I was changed from her to the Antelope, and I run her some time and I quit her in 1872

Q. Did not the Railroad Company at that time when

1217 they became the owners

Of the river boats, manage the business so as to direct the carriage of passengers by railroad instead of by the river?

A. I think it has been the general policy, that is it looks that way, to me, to induce all the business to go on the railroad that they can

Q. You say that one season they carried 60.000. tons of grain by railroad from Knights Landing to Vallejo?

A. Yes.

Q. State the reason why it was not transported by the steamers and barges instead of by the railroad?

A. It was to give the railroad the handling of that amount of freight

Q. To give business to the railroad?

A. To give business to the railroad, yes.

1218 Q. But the policy of the

Company has been to carry grain

A (Intg) As a whole they could perhaps carry it cheaper by rail. I do not know how that was, but there was nothing in the river to prevent its having been carried by the river

Q. But that year the Company chose for some purpose to carry it mainly by rail?

A. By rail - yes.

Q. Now I will ask you, whether this system of navigation that has been in use for the last ten years or more there with light draft steamers towing barges — whether it is not a cheaper way of transporting freight than by sailing vessels on this river, or by steamers either or steamers alone?

A. Well, in handling freight in large quantities like moving wheat, it can be done

1219

cheaper by steamers and barges than it can be by sailing vessels

Q. These steamers which you now use in towing barges can drive sailing vessels out of business, or they could have done so prior to 1860 could they not, if they had the same facilities then that they have now?

A. I think so

Q. Is not it a fact that on the Mississippi river and on the Missouri river of late years, that this plan of navigation of light steamers towing barges has supplanted the old fashioned way of carrying freight in large and deep draft steamers?

A. I believe it to be so

Q. Well suppose there was no debris deposited in the river, suppose the conditions of the Sacramento river from its very head of navigation

1220 to Suisun Bay was now

as it was prior to 1860, owned not this class of steamer which you now use and the barge system connected with it drive sailing vessels entirely out of the business of transporting fruit on the river? A. I think it owned that is in large quantities

Q. Now Capt. Foster, I will ask you whether regular trips or not are made by light draft steamers now to Marysville and between Marysville and this City or Marysville and San Francisco either

A. There are regular steamers running, not from the old landing at Marysville that is as I understand it, but from the junction of the Yuba with the Feather river. They are running the year around

Q How far is that from the old Marysville landing?

A. 3/4 of a mile I should judge

1221

Q. Well state in regard to that whether they could not make regular trips now between there and San Francisco?

A. Yes, they make regular trips. Sometimes they are bothered some with bayes in bayging

Q. What do the do?

A. They bring out a good deal of grain and carry up a good deal of general merchandise

Q. They bring out a good deal of grain and other production of the upper country

A. Yes.

Q. And bring up merchandise in return A. Yes

Q. Are freights any higher or lower than they were prior to 1870 or 1860?

A. I believe freights on the river have at no time been as low as they are now. On the upper river, on the Feather river or the Sacramento either.

1222

Q. I will take the time between 1860 and the present time. State whether the freights have generally been lower than they were prior to that date? A Yes

Q. In your direct examination you gave a partial description of the rise of the water in Feather river with reference to the rise of the water in the American river, state which of the two rivers is the larger the Feather or the American?

A. The Feather river I should call the larger

Q. Well, state whether it is only a little larger or whether it is very much larger

A. I should call it considerably larger

Q. Its tributaries are much larger are they not?

A. Yes.

Q. And it is a longer river

A Yes.

1228 Q. Do you know the Yuba

river, which is one of the branches of the Feather?

A. Yes.

Q. State comparatively how that is compared with the American?

A. I should call it in low water very near the same sized stream.

Q. The Yuba is about equal to the American at low water?

A. Yes

Q. How far above the mouth of the Feather river does the Yuba enter the Feather about?

A. Well, about thirty five steamboat mile above the mouth of the Feather river

Q. Now state whether or not the Yuba river contributes sediment to the Sacramento river, mining debris and sediment. State generally?

A. It does in my judgment

Q. State whether the Sacramento river above here does not bring down a very

1224 large amount in high

Largest amount of debris
from Feather

water — a very large amount of sediment of all kinds, both from agricutural lands and from mining lands? A. It does.

In reference to above the mouth of the Feather river do you mean?

Q. The Sacramento between here and the mouth of the Feather?

A. It brings down large amounts. The largest amount of debris or sediment comes from the Feather river. During the high water on the upper Sacramento there is a great deal of soil that does not come from the farming lands but is from the washings of the banks. The river is constantly changing. In a portion of it, I have seen the bank go away at least 100 feet in one rise say in less than a week.

1225 Q. above Knights Landing?

A. Yes, above Colusa in the upper portion, but that is just the same now as it used to be. That always has been so, which is shown by the ripple lagoons and lakes.

Q. State whether or not the upper Sacramento — and when I speak of the upper Sacramento now I mean that portion of it above the mouth of the Feather river

A. (Intg) Yes

Q. Describe to the Court to what extent it has breached its banks on either side and cut away the alluvial soil. You have just stated that in one place you have seen it working 100 feet.?

A. Yes, there are places where within my memory it has cut entirely through one bend and made a cut off — It has made what we call cut-offs.

1226 Q. And it has changed

the whole channel?

A. Yes. I could name at least half a dozen or more of such places where it has cut through

Q. When it cuts through these bends how does it affect the old channel, and what becomes of it?

A. The old channel usually closes up across the opening and it forms an inland lake. That is the bend

Q. What does it close up with?

A. It closes up with sediment that is washed from the banks, hills, etcetera, above. That is a sediment that comes down from points above

Q. Sediment coming from similar breaks and similar erosions of the bank above

A. Yes.

1227

Q- State whether that is not a very marked feature of the whole course of the Sacramento river from Knights Landing for 200 miles?

A- From Butte City to Red Bluff it is to some extent but not so much so below Butte City

Q- Butte City is how far from Knights Landing?

A- Above Knights Landing? It would be a little over 900 miles

Q- It is more above Butte City than it is below?

A- The cutting of the banks is much more perceptible above Butte City than below.

Q- Does it exist to a considerable extent below also?

A- Between Butte City and Colusa to a considerable extent. Between Colusa and Knights Landing there were only occasionally places where the banks has

1228

washed much.

Q- You are acquainted with the navigation up to Marysville in early days as well as at the present day?

A- In early days I was

Q- I will ask you whether or not you can run a steamer of the same class now or a steamer of the same tonnage, either- You can describe it yourself. I only want to give you my general impression - as easily now as you could at an early day? A- In low water to the mouth of the Yuba

Q- The mouth of the Yuba? That is right close to Marysville? A- Where they run now?

Q- Within a mile of the old Marysville landing?

A- Yes. Yuba City is on the west side, where they land now. I believe that a boat can go there now
1229 drawing the same water as they

did in 1849 and the same draft, but the river is filled and in low water you could not bring out perhaps so much from a point on a ~~bridge~~ barge as you could perhaps in the early days when they did not do any barging

Q- From what point did you mean last?

A- From the mouth of the Yuba or Yuba City from there to Eliza the channel is so much narrower that those larger barges would have some difficulty

Q- I do not know where Eliza is?

A- It is just below Yuba City.

Q- How far below?

A- Three or four miles or something that way by the river I should say

Q- Between the point known as Eliza which is three or four miles below

the landing now, you think you could not bring up quite so much in low water?

A- Yes. I think in dead low water that they could take as much to that point now

Q- From here to Eliza?

A- Yes

Q- Do you know how many acres of orchard there is on the banks of the Sacramento River between Sacramento City and the mouth of the river?

A- I do not.

Q- You only know that there are a good many orchards along the way?

A- Yes. A good many orchards

Q- But to estimate it in acres you could not?

A- I could not. It would be impossible for me to estimate it.

Q- I will ask you whether
1231 there are not narrow strips of land

on the immediate bank of the river that are devoted to orchards?

A- Quite narrow as a general thing.

Q- About what width say, when the river is up. We would say in the spring freshet? They continue do they not much larger than these high rises?

A- Yes

Q- Freshets come from melting of snow in the mountains and they continue with great uniformity, keeping the rivers at a uniform stage for weeks?

A- It is not an extreme stage but uniform high water

Q- Now then at that time how much of this land generally on the immediate bank of the river is out of water? How wide are these strips of land?

A- They would range as we go well down from a

1232

few hundred feet up to. I would say, half a mile. That I would say would be the extent to which any orchard reached back from the river. I believe Hollisters extends farther, I should say, than any other orchard I know. Theirs may extend back that far

Q- Is not the navigation now the ordinary navigation by river steamers and barges through Old river instead of Steamboat slough?

A- Yes

Q- How long has that been the case?

A- I think our steamers have been running regularly that way since about '78.

Q- '78 do you mean?

A- I think so.

Q- Only three years?

A- Only three years that they have been running
1233 regularly that way

Q- Has not the navigation of Old river been very much better in the last 5 or 6 or 8 or 10 years than it was in the years from '49 and '50?

A- There have been seasons that they had deeper water than they used to have that way in the early days.

Mr. Heart- Q- In the winter season do you mean?

A- In the Summer season I know one summer while I was running on the Chrysopolis we had extreme high tides. When we could not go over Hogs Back we could go that way. It was much farther but to save detention we would go by Old river.

Mr. Catlin- Q- Did they not sometimes lodge on the bars there?

A- In old river?

Q- Yes. A- Yes some times

Q- Was not Old river much shallower then than it is now?

A- They tell me this year that there is one bar that is pretty shoal.

Q- This present year?

A- This present year

Q- How has the navigation of Odd river generally been say during the last four or five years as compared with its capacity for navigation in the fifties? By that I mean between 1850 and 1860.

A- Well in my judgement I would say for that term of years it had been better than it used to be

Q- I will ask you whether you know anything about the storage of water in the mountains, in these large lakes, artificial lakes and reservoirs?

A- From personal observation I know nothing of them

Q- I will ask you this; Suppose there are large amounts of water on the headquarters of the American River and also in the Feather river and its branches; suppose there are large amounts of water stored in reservoirs and lakes during the Winter that are used during the summer season for mining purposes; Suppose farther that during the Winter season there is a regular and uniform discharge of numerous bodies of water from these reservoirs and lakes- State the effect that would have on the summer navigation of the Sacramento river?

A- Direct communication from these reservoirs would

1236 undoubtedly give more

water in the river. I mean by that, if the water is ~~divided~~ diverted from other sources and used through hose etc. that the evaporation would be more than ~~through~~ though it is kept in its natural channels. Reservoirs undoubtedly, improve navigation in low water for instance take these big basins above here. They keep the lower river up high when the upper rivers are low. I mean the basins between the Feather and the Sacramento River and above Knights Landing on the west side and also above Sacramento on the east side of the river

2- State whether or not you have observed that there was more or less water in the Sacramento River within the last few years speaking of the quantity

Y-11

now without regard to the channel through which it ran, at low water; if the water is as low as it was in the low season of '49 and the season of '64?

A- I could answer your question by making comparison with the water at Sacramento. I think our navigation this year from here to Freemont is as good as it was in '49; that is, that we would go, drawing as much water.

Q- Freemont? That is opposite the mouth of Feather River?

A- That is opposite the mouth of Feather river- yes the current in the river has changed from early days and one, unless he took particular notice perhaps to that change would not observe whether there was an increased

1238

volume or not from here down

Q- You have two gauges marking the water at the company's landing on Front street here; one indicating the low water marks of '49 and one indicating the low water mark for the last few years. What is the difference between those gauges?

A- The last guage has been done away with, is not in existence. The old '49 gauge is taken from marks before there was any perceptible rising of the water. It was not used in '49 but it is called the '49 gauge. The other gauge, after the river failed to reach its lowest stage was established for the low water of that season and subsequently raised up to correspond with the next season; but the '49 gauge so called

has been kept a true record

2- What is the difference between the two? What is the difference in feet between the low water mark of the '49 gauge so called- it is described sometimes as that of '49 and '50 - and that more recently established?

A- I could give you that exactly from my office. My impression now is it is something over two feet.

2- And the water now during low ~~water~~ season is about two feet - whatever it may be, it does not vary much from that - higher than it was during the period of time from 1850 to '60?

A- The water in the river now? 1860? The water gauge was established much later than that

2- The other gauge?

A- Yes. That was the highest one

1240

Water 6 1/2 feet higher than 49

Y 14

Q. It shows that the waters is now two feet higher than it was formally at low water? A. Than it was at low water. It is 6 1/2 feet higher this season than it was the time this '49 gauge was first established

Q What is this you described as being two feet difference between the old gauge and one later?

A. The later gauge was only used for temporary purposes, and by my advice it was discontinued as it was apt to mislead.

Q. What I want to get at is this; Take your gauges which are reliable there and what difference do they show between low water mark, say as it prior to '60 and low water mark as it has been during the last 5

1241 years

y 15

Mr Hart "That is if there has been any gauge there within the last 5 years

Mr Cattin There is one there now

The Witness Prior to 1860? Do you mean the low water of 1849, speaking of it as prior to '60

Q. I will ask you, was there any substantial difference in the low water mark between '49 and '60, and if so what was the difference?

A. I could not state the amount. I believe in '60 though, that there was a difference

Q. How much higher was low water mark in '60 than it was in '50 we will say? A. But very little if any. Perhaps there was some but I could not give any thing more definite than that there was no particular

1242. difference. Now then how

much higher was it in 1878 or 1879 or 1880?

A. Well, I should say in 1878 to the best of my knowledge I would believe it to be about 2 feet higher than in 1849

Q. Well what is this difference which you have just described as 6 feet 6 inches?

A. 6 feet 6 inches now, between that date and this, which would be an addition of 4 feet and 6 inches

Q. In 1878 - that is 3 years ago — A Sixty 7 1868 I understood you to ask me when I stated that in my judgment it would have been 2 feet.

Q. 2 feet to '68. Now up to 1878, what is it?

A. When I answered you that in my judgment there might have been 2 feet difference, I understood you to ask me naming the date at '68

1243 Q. I meant to say '78 although

I might have said '68. Bringing it up now to '78 what was it?

A. I 1875 I was looking through it. In '75 it was a little over 6 feet on our gauge and last year it did not go as low in the banks as it did this year by near 6 inches that is, it was near 7 feet last year on the '49 gauge, whereas it was 6 feet 6 inches this year

Q. Then it was 6 feet 6 inches in 1880, 7 feet in 1879, and in '75 4 feet do you say?

A. In ~~'81~~ '81, 6 feet 6 inches; in '80 near 7 feet

Q. And in '75 you state about 4 feet?

A In '75 it was 2 feet. It was over 2 feet, but I cannot just remember the inches now. Over 4 feet I mean in '75

1249 Q. And in 1868 2 feet

A. In 1868? That is guess work. I would judge it to have been that much

Q. Do you remember when the mouth of the American river was straightened by a cut about half a mile above its old mouth?

A. I remember the time

Q. State what effect that has had upon the deposits of the Sacramento River at the bridge? Above and below, and at the bridge?

A. It has had the effect to make this deposit above that is between the new mouth and the old mouth. the same amount of sediment in my judgment would have come into the Sacramento River and been deposited lower down.

Q. Do not the piers of the bridge have some effect upon the deposits there?

A. Yes, some effect

1245 Q. Do not they cause eddies

It fills in below. Only a few days ago I sent a steamer there to wash out a bar below the piers, so that the barge could ~~move~~ work

Q. That bar was caused by the eddy of the piers.?

Q. I will ask you whether you remember at the time the bridge was constructed there was not on the part of the river navigators, and especially on the part of the people of Marysville a strong opposition to the construction of that bridge for the reason that it was alleged that it would obstruct the navigation by forming bars in and about the bridge.?

A. Yes, I believe so. There was opposition made to the bridge on the part of the people of Marysville if I remember right.

Q. As a matter of fact?

I will ask you whether that has not ever since its construction caused the forming of bars in and about the bridge, both above and below and under it?

A. Not to any great extent about the bridge. It no doubt has had the effect to shoal some ~~below~~ the bridge and immediately in the rear of the piers the bars settled naturally

Q. There is a bar above the bridge you say? A. Yes

Q. On the north side and east side. A. On the east side

Q. As you go down the river below the bridge there is a ~~bar~~ on the west side?

A. Yes

Q. You think that is continuous, and the same bar

A. No, The bar on the west side in my judgment is formed by the shape of the bank ~~by the shape of of the~~ on the Yolo side above the bridge since the

Y 21

new cut was made. It acts like a wing dam. The water ~~becomes~~ leaves that shore and comes towards the Sacramento shore, and leaves the sediment.

Q. State whether or not the bed of the river itself has not materially changed above the bridge? Does not the river now run above the bridge, say half a mile or so above, farther to the west

A. Yes. For nearly the width of the river it does.

Q. That makes a bend in there? A. Yes. In low water, the water goes nearly the width of the river over and that makes a bend

Q. And that has caused an eddy which has produced a bar on the west side of the bridge? A. Yes

Q. I ask you if you re-

1248 member the river when the

town of Sutterville was
started?

A. That was when I was
going back to the Hoboken
time for. That was started
in '53 according to my rec-
collection

Q. State what the object
of starting that town was?

A. Because it was higher
ground than Sacramento

Q. State how many times
up to that time Sacramento
had been flooded as far
as you were acquainted?
the present site of the city

A. The Winter of 1852-3 it
was the second time, but
the water I think came ~~in~~
over several times during
that season; that is the
Winter of 1852-3. In '49
I was not here but was told
it went under water

Q. When you arrived here
in the Spring of 1850 could
you see evidences of its having
been overflowed?

y 23

A. I do not call to mind anything positive about it. I am satisfied that it had been overflowed

Q. You are satisfied from what you observed at that time? A. Yes. In going up river at that time we went up in a small boat. We left the Sacramento River above Bannon Slough, and made a straight [wake] and we came out into the river again right where Gibson's warehouse is built now. I should say it would be 6 miles below the mouth of Feather River.

Q. You could go out of the river and into the tule and back again into the river? A. Yes. and where we came back it was through one of these little sloughs, an outlet into the tule from the river

Re direct Examination
of
Albert Foster

Mr Hart Q. State that the Sacramento River oposite the steamboat slough has been navigated recently steamboat slough is not navigable now?

A - Not by the larger steamers -

Q. What is the reason of that A the filling in

Q. Filling of what?

A. of sediment

Q. Of what, the river or the slough

A. The slough

Q. Why was steamboat slough formerly navigated in preference to the Sacramento River?

A at first there was deeper water and it was a shorter distance

Q. You say the reason of it

1251 is it has filled up steamboat

725 Slough? A Yes

Q. How much?

A. I have not been through Steamboat Slough for quite a number of years But the larger boats the Captains Claimed at low water could not run through

Q. Do you know what kind of sediment it was; whether sand and sediment or sediment alone.

A, The further down the river we go the finer the sediment becomes, I class it all as sediment -

Q. Now you say that up in Colusa Co about in Pin Hook, the river sometimes cuts off or cuts through and changes its channel - A. above Butte City?

Q. Yes? A. Yes.

Q. And at Kirksville

A. And at Gouge eye occasionally -

1252 Q. they sometimes call

726 that place Gouge-eye?

A - Yes.

Q. What has been the shape of the river there

A. All along?

Q. Yes.

A. Along in front of Butte City the river is very nearly straight

Q. At the place where the cut was made tell us how it was?

A. The place where the cut was made that I refer to was say nearly half way between Butte city and Jacinto, the land if you are familiar with it, that was owned in there at one time by Montgomery

Q What was the shape of the river there?

A. I knew the river before the cut off. There is a double cut off there In coming what used to be known as Newhart's or Pike's Landing in making

1253 a sweep down there, it

727 passed well to the west in where there used to be a school house. we called that school house Bend then it passed around and even went to the north Easterly, say away around to the East outside the timbers on the east of the bottom, and then came around back again close to this and then passed down and there was a little island there That I think was a place right below where the first cut off or the lower cut off occurred. My memory is it was called Bullocks at one time

Q. What was this in the shape of an S or a straight river at the time the cut off occured?

A. It was more in the shape of an S or two loops

Q. Was there any channel

1254 there before the cut off was

728 Made? A. where the cut was made there was no channel -

Q. No slough through?

A. No I camped on the lower loop in September 1849

Q. How far did it have to cut across - the first I knew of it it was probably over 100 yards. the least at the time it broke through or went through, I came down the river going around the bend and when I went up the river I went through the break

Mr Catlin what was the length of it; How much river was cut off

Mr Hart No; How long was the cut itself is the question?

A. at the time of the break through it was simply a wall going away, that is the lower break after wards I was not in the river at the time that cut

1255

729 through but know of it. I understand some of the boys helped that a little with a shovel; helped the water to start across.

Q. It was a narrow place there within two bends of the river? A. Yes.

Mr Catlin Just state the length around of the river which was cut off

Mr Hart I do not care about that. I do not ask that Did I understand you to say that the original bed of the river had been filled up. A. The original bed in places. In all these bends, by the wash, the point side fills up which fills the river up. There are many places I could name where the river has changed over more than its width and filled one correspondingly on the other side so that there is timber growing there.

1256 Q. Did you ever notice the

730 material with which that bend was filled?

A. The bars as we go up there become course gravel and sand-

Q. are they anything like this stuff here.

A. There is nothing of that kind. I do not remember of ever seeing anything like that up the river.

Q. what is the difference between that and the soil that fills up the river bed up there on the Sacramento?

A. There is more alluvial soil. I suppose you would call it - in the filling up there-

Q. Does it make good or bad soil when it is filled up. A. It makes good soil.

Q. Productive. A. Productive

Q. Do you know whether or not there is any mining up on the river, there above

1257 or was at that time

731 A. I do not know of any hydraulic mining at that time, there may have been other mining

Q. Did you ever see up ~~in~~ in that country north of Colusa any of this stuff that they call slickens except that which came from over towards Chico?

A. I was going to say that my last trip to Squaw Hill with a steamer. as we went out there - I noticed the river and I thought it was raised from the color of the water - I inquired of the ferryman below at the landing if the water had raised - saying that in running along I noticed this. He said it had not and I asked him what colored the water - he said it came from some mine -

Q. Do you know whether that was the mining on

1258 Deer Creek. the Hydraulic

732 mining which has been recently commenced there

A. That is where he said it came from. out of there

Q. Now I will ask you this question. Do you know of your own knowledge or did you learn after this time. whether mining on Deer creek ceased subsequent to the date you speak of when you saw the water muddy there? A. I have not been as high up as that since then - But I have asked men on the boat and they say it became better

Q. I understood you to say that between this place and the mouth of the Feather river the navigation was as good as it ever was. as it was in 1849

A. yes. I think we could bring out or go up drawing as much water as we

1259 could in 1849 when I say

733 49 I mean after I commenced steamboating which was in September 51-

Q. Had there been filling in the river? A. yes

Q. How is it then - what is the reason you can navigate it as easily?

A. Noticeably the shallowest place at that time known as Russian Crossing there is now a large bar formed on the west shore which narrows the river and at that particular point there is much more water now - that is depth of water - then there was in the earliest days

Q. The river has been narrowed by a sand bar

A. By a filling in yes

Mr Catlin I will just ask one question - what was the length of the river which was cut off by that cut you speak of being made in

1260 A. I think we called it

734 a shortening at that time, of something over six miles I have a sketch, I took a sketch of that river before a cut off

Q That was about the distance? A. Yes—

—— " ——

Recess until Monday November 21st at 9.30 am

—— " ——

Filed November 21st 1884
Thos H. Berkey Clk
By W.D. Hamilton Dep Clerk

In the Superior Court of the State of California in and for the County of Sacramento

The People of the State of California
vs.
The Gold Run Ditch and Mining Company

Morning Session
Monday
November 21st/81

Transcript of Testimony
Volume

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Capt A Foster (recalled) 1262
C. W. Clarke 1385

Winfield J. Davis
Official Reporter

The People
vs
The Gold Run Ditch Mining Co

Sixth Day

The court met at 9.30 a.m.
Monday November 21 1881

Captain A Foster Recalled

Mr Cattin what depth of water is there now in front of the City now at foot of K Street say off of a Hulk Cory

A. There is about eighteen feet there might be a little more out from the hulk a little

Q. How much deeper is it now than it was. say in September last.

A I do not think there has been any material change there. Since September last

Q In the depth of water

1262 I mean A. In the depth

of water I mean
Q Has not the water risen
some. A. At present!
Q How much deeper is the water
now than it was in September
that is to say how much
has the rise of the river
been A. I did not look
at the gaiuge of ~~the river~~ this
morning - yesterday I think
it would have been some
Eighteen inches higher
Q. So that the water in the
Sacramento river now. is
about Eighteen inches higher
than it was at low water
mark last Summer? A. Yes Sir.
Q. Can you state about
how early it was that
the old Steam Navigation
Company moved there ways
as they call it from
fishermans beach above
the bridge, down to there
present situation on the
Yolo side below the bridge
A. The old ways were
1263 located in the mouth

of the American river
and not at fishermans
beach.

Q. In the mouth of the
American river A. yes. it
is my impression that they
made a change in it
about Eighteen hundred and
fifty eight

Q. They used fishermans
Beach to put up the
Comanche didnt they
A. yes Q. when was that
A That was in 1851

Q. Well when they was ~~that~~ re-
moved to its present location
opposite the City state whether
they found a sloping shoal
off there into the water
A my recollection is that
we had pretty good
water - good water I
might say at that time
on the yolo shore

Q you mean that there
was twenty four feet of
water or anything like that
1264 A. I think it shoaled up

Some but the current at that time was more true as it come down, that is. ~~Where~~ this cut into the Yolo bank and making the water at that particular point more equal on both shores
Q. At that time the river had not cut into the Yolo side where the Hoagland property is. A. No. sir
Q. Nor had the short cut been made for the American river A. No sir—
Q. ~~was~~ Did the river come down pretty straight
A. It came down pretty straight then.
Q. Had there been nevertheless some shoaling commenced there on the other side
A. I think it had shoaled some— I am quite shure it had shoaled some in the reach— in the general reach
Q. It had shoaled some on the reach— you mean the stretch
1265 of deep water in front of the

City. A- The whole city
front. Q. My impression is
the first shoaling showed
more prominently below the
steamboat landing than
above
Q. A little further down
towards R street
A. Yes towards R street
Q. You discovered the shoaling
before it made its appearance
A. Yes
Q. That is from the action of
the boats as they passed
here A. Yes sir.
Q. As near as you can tell
when did the shoal known
as Haycocks shoal first
commence shoaling so as
to discover in navigation
that there was a shoal
commencing to form there
A. Large steamers would
always feel that shoal there
from the earliest days. I
could not state the first
time that we ground there,
1266 that we got stuck

Q. Since the adjournment
have you fixed any of
these dates precisely that you
were inquired about
A I have fixed one date
that is when we fetched up
at R street
Q When you were first stopped
at R Street A - Yes sir it
was on November Sixth 1864 -
I was running the Antelope
at that time.
Q. That was in November -
1864 A. Yes.
Q. When you first grounded
A. (Continuing) that is the earliest
date that I can fix. at that
time we had no trouble
below, we came up and
fetched up there.
Q. Was the summer of 1864
an unusually low water season
And before you answer
that I will ask you to
refresh your memory in
regard to what was known
here as the dry season.
1267 Whether the winter of 1863-4

Was not a winter in which ~~a great deal~~ scarcely any rain fell and if 1864 is not a sort of epoch here in the old farming section as being a very dry season
A. I think it was one of our dry seasons 1864-5
Q. Now you were asked in your direct examination what the average fill of the river was in front of Sacramento City, I think you stated it was an average of twenty two feet - do you know that it was that much. that there was a fill of twenty two feet in the channel of the river
A. I take it from bank to bank, the fill from bank to bank.
Q. Do you include in that that big bar on the other side of the river when you are making that average, A. Yes sir what
1268 I mean from bank to bank

Is the river bed proper
Without including the slope bank
Q. there is a bar on the
other side of the river
formed that comes nearly
up to the top of the
river bank is there not; I
refer to the bank that is
overgrown with willows just
below here
A. I do not include that
in my — In
Q. (Interrupting) you do not
include that.
A. No sir
Q. You include the big
bar on the other side
A. I include the big bar,
this season the bar was
out of water in front of
our ways
Q. When the water was low
down it showed itself
A. The bar was out of the
water
Q. Right in front of the
landing at the foot of K street
1269 when you go out onto the

deepest water, what kind of
bottom do you find there
A. It is a hard sandy
bottom
Q. A good hard bottom
A. Yes, sir
Q What is the greatest depth
of water through the Channel
from where your landing is
at K street, to the shore on
the other side, what is the
deepest part of that Channel
say at this time.
A. I should say not over
twenty or twenty five
feet outside of the Hulk
Q. At low water
A. At low water, yes
Q. I asked you what the deep-
est water is in the channel
of the river. between this side
and the shoal on the other
side
A. I should judge the
deepest water in the channel
from K street to the opposite
shore to be over eighteen
1270 feet. I speak a little

advisedly in that. We lost
a flask of quicksilver there
a time ago and we searched
for it with poles and we
found about eighteen feet
of water down there.
Q. Can you tell me in regard
to the fruit trade of the
orchards in the river, whether
or not it has not been greater
between 1871 and 1881 than
it was between 1861 and 71
You understand my question
whether during the last ten
years it has been larger
A. I would say it had been
decidely greater
Q. Decidedly greater during
the last ten years
A. Yes
Q. Well compare the latter
part of the last ten years
with the former half of the
last ten years how would
it be? in other words how
would the last five years
compare with the five years
1271 preceeding.

A. I should think that
the last five years had
sent forward more fruit
I know that they have in
some particular seasons
there are other seasons that
they have not sent so much
Q. Taking the average of the
last five years, with the average
of the five years before
A. I should think it would
be fully as much and
more.
Q. Captain can you state
whether in San Joaquin river
the same system of navigation
by stern wheelers and barges
prevails
A. It does something similar
Q. For how long for during
the last ten years or more
A. Yes some of the same
boats that run in the
upper rivers, work over there
in high water, stern wheel
boats, they make regular trips,
from Stockton to San Francisco
1272 Q. With barges. A Yes with barges

Although the regular boats there are like our large boats, they run without barges

Q. Is there a side wheel steamer running on the San Joaquin now to your Knowledge

A. I do not Know that there is.

Q. State in regard to the navigation if you Know in regard to the Columbia river in Oregon. whether that is navigated by stern wheelers or side wheelers or barges and so forth.

Mr Cadwallader objects to the question on the ground that it is irrevelent.

The Court proceed if you Know

A. As far as my Knowledge goes the navigation is done ~~by~~ stern wheel steamers on the Columbia, that is principally, particularly the upper portion

Q. I will ask you whether that has been a modern

1273 Change-

A. The first steamboat in
the upper waters of the
Columbia — they built stern
wheel boats the same as
we had on our upper
rivers here
Q. Well on the lower Col-
umbia
A. On the lower Columbia
there were of course sea
going steamers and sailing
vessels. they went as far
as Oregon City
Q. How is it now on the
lower Columbia
A. The stern wheel steamer
the wide West I believe
runs down to Astoria, and
sea going vessels still go
to that point
Q To Astoria
A To Portland
Q. I am referring to the
inland commerce there if
you know on the lower Col-
umbia whether it is not
carried on by stern wheel
1274 steamers, I am not referring

to ocean steamers that run
to San Francisco to Portland -
but whether Commerce on the
lower Columbia is not carried
on by stern wheel steamers
A. I know it is partly, that
is there are one or two boats
I cannot say positively that
there are no side wheel
steamers running there
Q Have you been able to
fix the date Captain or
near the dates you first
bumped or struck on the
lumpy place so called on
the Haycock Shoals — ~~Can you~~ — I looked carefully
through your testimony for
the date and I cannot see
the date
A. I have not fixed any
date for that. the time
we struck on that shoal
was — it must have been
later than 1868, as the
time we struck the lump
there that I refer to
1275 Q You were on the Chrysopolis

from 1865 to 1870
A. Yes
Q It was some time during that period
A. Yes
Q. You are not able to fix the date precisely
A. No
Q. You think it must have been after 1868.
A. I think it was after 1868 or as late as that
Q. In 1867–8 there was a very large flood wasnt there
A. Yes that is my recollection
Q. In the Winter of 1867
A. Yes
Q. You think it occurred soon after the big flood of 1867–8
A. I would not like to state the year. but it was I should judge somewhere about that time, later if anything
Q You can remember that it was after the high water of the winter 1867–8 or
1276 the Spring of 1868

A. I suppose it was between January and March. I do not know that I could state positively when it was but I believe it was in 1868

Q. At the time the Cora sunk at Walnut grove how long was she in the water there, how long was she substantially sunk before you got her up?

A. My memory is it was about seventeen days from the time she first sunk until we raised her out of the water

Q. It was in the month of May as I understand it

A. It was the twenty fifth of May

Q. Was not the water pretty high then from the spring floods.

A. There was not a very high stage of water but the spring raise made it considerably above low water

Q. Was not the Sacramento
1277 carrying considerable mud

In suspension at that time
A. There was a raise occurred while were there and my memory is that I never saw the water carrying more sediment than at that time.
Q. Now to what immediate cause do you attribute her filling up two or three feet in her cabins and on her decks with mud
A mostly from the still water there was no current that could run through our cabin in the hold — she was hatched they closed the opening in fact before she sunk, they started in to do that while she was sinking.
Q. I will ask you whether if a vessel like that should sink in any river where there was sand in the bottom and alluvial soil on both sides of the break would not she fill with sand
1278 A I raised the same

steamer once before when she had sunk on a sandy bottom and there was very little sand in her at that time

Q Where was it that when she sunk ~~at that time~~ then

A. That was about two miles below Clarkesburg

Q In what year

A I think that was in the year before

Q. The year before

A Yes sir

Q. What year was that

A That would be 1877 or 8 that is the date I think. I could fix it of course I have the records

Q. Did the boat sink by reason of striking snags

A. Yes sir.

Q. In both cases

A. Yes sir in both cases

Q. Well at the time of the first sinking how long was she under water

1279

When she sunk near Clarkesburg-

A. Not as she was the last time

Q What time of year was it she sunk then — in what year

A. I think it was in the fall of the year

Q. When the river was low

A. When the river was low

Q. Before the rise had commenced

A Before the rise, I would prefer to give exact dates on this I cannot carry them in my head

Q. I know you cannot give the exact dates here it is not necessary however it is sufficient ~~to~~ if you can say whether it was in the fall or the summer or the winter

A. It was during low water

Q. During low water, in the early fall before the
1280 rains had commenced

And before the river had commenced to rise
A. That is my impression now
Q. I will ask you Captain supposing that in 1854-5 or 1856. about there, this cut shortening the Channel of the American River had then been built and the bridge had been built and both had existed at the same time, would not in periods of high water the Sacramento river have made the same commotion in its waters and the same eddies and whirls that you have spoken of
A Yes whirls. with the same amount of water — as far as whirls are concerned they would have been similar
Q Well if in 1855 the Sacramento river run where it does now, striking the American river where
1281 it does now, at the mouth

I mean the American river striking the Sacramento river at right angles during the high periods of water, Would not that have Created these waves

A. It would have Created an eddy below, where it first Came out, it would Create the same waves

Q. Would not it dam up the Sacramento or paralyze the Current of the Sacramento at that point also

A. It would at first but not to the extent that it would after the river had shoaled though

Q I will ask you Captain whether you can state whether the Tuley basin — the extensive Tuley basin to the west of here extending from Knights-landing down to Cache Slough discharges more or less freely now than it did during the years say

1282 from 1849 to 1859 or 1860

That is do they drain off earlier or later

A. Taking the same body of water I should not suppose that there was very much difference

Q. That is to say the tuley basin being full it would take it about as long to drain off in those early days as it does now

A. I think so very nearly

Q. Have not some of the sloughs on the lower Sacramento that formerly acted as drains been closed up since that time, Jackson slough for instance

A. Jackson slough would not have any effect on the West side, Jackson slough has been closed up, that is in the old river

Q. Are there any sloughs on the West side that have been closed up

A. There has been some
1283 leveeing done, there might

have been some unimport
ant sloughs that have been
closed

Q. Look at that map
I will ask you to point
out to the court what
slough that is there. running
down there, referring. and
whether there has been any
leveeing done there — there
is no name on it and it
is not marked and therefore
I will ask the witness the
question

A. Is this the slough referred
to. it is known as Elk
slough

Mr Cadwallader As what?

A. As Elk slough

Q Where does that come out
of the Sacramento

A Do you mean at the
upper end

Q yes sir

A. That is an extension
I would not be positive
about the old opening
1284 but I think above Clarksburg

here. (points out Haycocks Slough) the mouth of it goes into Sutter Slough or did, but it has been closed up as I believe, I have not run but very little of late years but we call this Sutter Slough (referring) and this is what we call Steamboat Slough proper and Sutter Slough and Steamboat Slough come together here (showing) this is Miner Slough and this is Cache Slough, which is the main drain of these Tules and this is old river, this is generally called Steamboat slough from this point to this (referring) although that I call Steamboat Slough proper, and the Hogs Back is located here (showing).

Mr Belcher Q. Are there any marks on that plat to indicate those points,

Mr Catlin A. No they are not marked

(The Witness) There is Steamboat Slough and there Sutter Island and there is Brannon Island and there is Miner Slough and this is Elk Slough. This does not appear to have any name here (referring to diagram)

Mr Catlin. It is not marked on the map. But he identified it.

The Court This is Elk Slough down to this point? (refferring)

A. Yes sir.

Q. And here is Sutter Slough?

A. This is Sutter Island, It is known to us by

1286 that name on the

river.

Mr Catlin. That is an Island called Sutter Island, do you know what this is called?

A. I do not know anything about that. I know the name of that slough

Mr Cadwalader. There is no island there and there has not been.

Mr Catlin Is there any island there now?

A. There is no opening from the river

Q That has been closed up?

A I could not swear that there ever was a direct opening from the river into Elk Slough, but I believe that there was right in the breast of what we call Haycock Shoals

1287 Q Was there an opening

into Sutter Slough?

A. At Sutter Slough
there was.

Q Are any of these
sloughs, as far as you
know closed up, or
don't you know?

A I do not know. I
have not been down
there, along there of
late years. I could
not tell whether any
of these others in
fact are closed
or not.

Q. Have any levees
been built on that
slough you call
Elk Slough, or miner
Slough?

A. My impression
is that there was a
levee built along for
a portion of the
distance, on Elk
Slough, that was to
protect the land
1289 between here (referring)

that is further back here

Q. From the tules?

A. From the tules.

Q. State how Grand Island there has been leeved, both on Steamboat Slough, and on the old river

A. Yes sir

Q What are the character of the leeves - small or large?

A. They are what I would call pretty good, sized leeves.

Mr Cadwalader We shall introduce the testimony here of the men who built those leeves.

Mr Catlin State what effect those leeves have; the leeves on Grand Island and such other leeves down there as you know of, that existed there on the river,

1290 on Grand Island or

on Georgianna Slough or any of these islands there, Sherman Island—what effect they have on the discharge of the river water, and the tide water both, whether they obstructed or facilitated.

A. The levees while they stood, when raised, ~~are~~ caused the river to carry more water, but in time of high flood they have been pretty much washed away.

Q. They have been washed away in places? You do not mean to say that the great length of them has been swept away?

A. Not the whole, I don't need to say that they have all been washed away.

Q. There have been
1291 breaks in them which

relieved the river.

A. There have been some breaks nearly a quarter of a mile long.

Mr Cadwalader. They do not relieve the river, Mr Catlin.

Mr Catlin. State when they break, whether they do relieve the river any, when these large breaks occur?

A. Since 1878 and also last Winter, the levees first gave way on what we call the Slough side from the overflow of the tules.

Q. Which is the Slough side?

A. The west side, they gave way first according to my recollection there, then on Grand Island, and then they made a breach of the

1292 lower portion of Grand

Island, and the water passed to the San Joaquin, and then the levees on the south or east side of the San Joaquin, gave way I should say that the levees, on the old river gave way which lets the water from the tules make a regular breach right across the lower country there.

2. Step up there and describe on the map the course of the waters when these breaks occur, where the water goes and its direction to the San Joaquin.

A. The land particularly from Cache Slough to the Sutter Slough on the west bank is quite low,

1293 particularly the lower

portion, and the tules piled up here and the water makes a break, and it gets sufficiently high so that the waves carry the water against the levees, and wash away the levees, and then it crosses to the lower portion of the island, and the levees on the old river side give way. The levees on the south side on the old river give way and it finally ~~gives~~ leaves a current of water running right across there, and over into the San Joaquin. The San Joaquin at this point (referring) is the lowest generally in time of flood.

Mr. Belcher. From Cache Slough?

1294 A Yes Sir, from Cache

Slough.

<u>Mr Catlin</u>. The river sweeps right across here (showing)

A. Yes sir across the lower portion, and the levees are here?

A. Yes sir

Q. It sweeps over into the San Joaquin?

A. Yes sir

Q. Now I will ask you further right here whether when the current is sweeping across the Sacramento, what effect it has upon the current has upon the current of the Sacramento River, coming down?

A. It has a tendency to make what we call back water

Q. How far up the river does it check the water? how far up the river does it make the
1295 current run up the

river?

A. I can not say that it makes it run up river. It goes almost across—it becomes slack from Cache Slough until we get into what we call Steamboat Slough proper immediately above Cache Slough. I have seen this very heavy volume of water coming out here such as they have in high water, and the water would be quite slack until we got into Steamboat Slough. I presume it affects the current above there, that is into Georgiana Slough. I never have been through Georgiana Slough, although I have been down its mouth a little. Walnut Grove is a little
1296 above Georgiana Slough

and what was called three mile slough, below Rio Vista that runs abreast of this island - Wood Island.

Mr. Belcher Where is Wood Island?

A. Right opposite of Rio Vista.

Mr Catlin. This, you say is Three-mile Slough? (referring)

A. Yes sir. And this we call Hensley Slough

Q. Three-mile Slough runs into Hensley Slough?

A. I have been through there with steamers and barges, and have gone into the San Joaquin coming out here (referring)

Q. Point out Jackson Slough there; it is not marked

A. Here is Jackson Slough that has been closed up a number of years

1297 Q. Tell me whether

Georgiana Slough has not been closed up of late years

A. I am quite sure that it has not. At the head I know it is not. I know that schooners go in there, you can see them in this little slough (referring.) This is a landing where Millers' Place is, not over a mile and a half from Walnut Grove and we can see the masts there as we pass up and down, and they must go through the slough.

Redirect Examination.

Mr Cadwalader Captain I believe you stated to Mr Catlin that as long as the levees stand, the river channel proper of the Sacramento discharges the largest amount of water

1298 A. A larger quantity;

Yes

Q. And that that discharge is diminished by the breaking of the levees, and I believe you said then that the largest quantities of sand, are transported or, rather that the greatest scouring is done while the levees stand during the stages of high water

A. Yes.

Q. And that the raising of the river beds produces an overflow which—

Mr Catlin objects to the question on the ground that is leading

Mr Cadwalader What effect does the raising of the river beds have upon the giving way of the levees

A. It would cause them to give way sooner, that is with the same

1299 volume of water

Q. What effect does the concentrating of the water on the inside of the levees have upon the levees say during storms - wind storms

A. If the water reaches the levee on the inside the cutting from the waves is worse than the current in front generally

Q. That is, the waves on the inside?

A. Yes.

Q. They are worse than the current?

A. Yes

Q Have you ever seen this city in imminent danger within the last three or four years from that cause

A. Yes. It was so that it required very lively work, but I did not consider it very dangerous though

1300

Q. Where was that?

A. That was on the R-street levee

Q. In what year?

A. That was in 1878

Q How high did the waves run there?

A. The waves - well waves 3 or 4 feet high ~~bumped~~ is a pretty large wave, but I was on the levee at the time but I recollect that the spray blew clear over the levee in places

Q. How many men were at work there on the levee that day?

A Well a good many men, they fetched in the material on cars there and had men to handle it as fast as it was brought in.

The Court. These historical matters are not all important are they?

Mr Cadwalader This
1301 evidence we introduce

to show in the language of the complaint that the tendency is to make residence in this valley intolerable, and that is a part of the nuisance.

Mr Cadwalader. This (pointing to a large map of the City of Sacramento) is the R-street leeve, is it not?

A. Yes sir

Q How far back were the waves in 1878 washing the base of that leeve, and threatening this town with overflow?

A. I think the waves were the worst from Sixth to tenth street. The overflow extended back a good deal beyond that, but not with that depth of water

Q. The overflow extended back how far?

1302 A. I could not state

positively, I would say up to 16th or 18th street

Q. You have no idea how many men were at work down there, and how fast the cars loaded with gravel and sand bags were running

A. I was not there only a portion of the time, I should judge that there were, well at least 500 men at work on the levee. How many they had running the cars, and where they got the dirt I do not know

Q. How high was that levee?

Mr Catlin objects to the question as not re-direct examination, and question withdrawn.

Mr Cadwalader Where did that water come from Captain?

A. There was a break
1303 known as the Lovedale

break.

Q. How far above the city was that?

A. I should judge less than 2 miles above the city front.

The Court. Of Sacramento I suppose you mean?

A. From R. street, I should judge it to be a mile below R street.

Mr. Cadwalader. What time did that occur in the year?

A. In February, I believe.

Q. The latter part of February, 1878?

A. Yes sir.

Q. What was the nature of that break?

A. I should judge the levee was gone for at least 300 or 400 feet. The banks in front of the levee were cut down also; so that it took a large

1304 volume of water through

there

Q. How large a volume of water passed through there?

A. I sounded the banks immediately by the break I think the next day, and my recollection is that the deepest water we found at that time was 8 feet, but it was a very strong current—it was about 8 feet.

Mr Catlin Where was it that it was 8 feet?

A. That was along where there was a partial cut at the time. The bank had already begun to give way at the time

Q. 8 feet on the bank?

A. Right on the margin of the river. I will explain the levee was built back, leaving a kind of shelf of the bank between the levee and the river

1306 Q. Where was this 8 feet

in depth?

A. That was through this shift.

Mr Cadwalader What direction did that water take? After breaking through from the Sacramento

A. After going square east, you might say, the body of the water then went more ~~suddenly~~ southerly although it spread out like opening a fan.

Q. Did not it at first run in the direction of the cemetery,

A. The first direction was—yes towards the cemetery

Q. Did it cover the lower part of the city?

Mr Catlin. Let him state.

A. I was not at the cemetery during the flood, I could not state whether it overflowed any land belonging to the cemetery or not

Q. Could not you
1306 see the same water go

down the river?

A. Probably I could, but I dont recollect it

Q. You recollect whether the water was on both sides of the cemetery.

A. I would believe it to be there, but I do not know it to have been there. I know it was between the cemetery and R R street

Q. Was it not all over the riverside road?

A. It was over the riverside road below the cemetery, I know

Q. Was it not above

A. I could not state. I did not pass over that ground. There is a higher ground according to my recollection immediately east of the cemetery than there is south or between the cemetery an Sacramento

1307 Q. On the west? I wish

your honor would observe here is the City Cemetery (pointing to the large map of Sacramento) lying between 9th and 11th streets, and bounded by Y. It is just south of the city, south of Y street

Mr Cadwalader State how a large a quantity of water came out of that break compared with the water going down the Sacramento River

A. A small portion at that time

Q. Well, how did it run; how much of a current was in the break?

A. When it was at its greatest depth, there was sufficient current to float a cobble stone mad fast to a line, that is straighten it out so that it would rise to the top of the water

1308 Q. You would throw a

cobble stone in the break and it would be carried how far?

A. No. I could explain this by stating a fact. One of the ranchmen there, we were trying to sound, which was very hard to do — went and got this cobble stone from his house, and we made a netting and we put a heaving line on it and we dropped it overboard from our barge above the break and the current would float it so that before it would go to the bottom it would come up and it would bob out of the water

Q. State whether you found it impossible to close that break with all your appliances

Mr Catlin. Ask him what difficulties he had in closing it

Mr Cadwalader - State for how long you attempted to close it, how long you were working in trying to close it

A. I worked after it had been virtually abandoned, not on my judgment, however, but by request. The reason we could not close it with the appliances we had was owing to the quick sand being of greater depth than our poles would reach down and they were washed out from the bottom

2. State what you put in, and what barges and steamboats and other things you had at your command and how long you were engaged in trying to close it

A. We had some two or 3 barges. They
1310 had been there before

I went there, and we had the steamer Dover

Q. What did you have the barges loaded with?

A. They were loaded with sacks of dirt, that was before I took charge of the work. The sacks of dirt were for putting in there after they had finished piling and brushing. The idea was to strengthen it with sacks and close the break

Q What was the first part of your operation in checking the current?

A- My work when I took hold of it was to arrange First to keep the levee from cutting further by ~~up to the~~ piling, and sheet piling through the levee. When I got each end firm, then I arranged for driving piles across this big gap which was 25 feet deep at that time?

I had arranged — I had my upper stake a stick of timber eighteen inches square for a guide for the piles below and the lower ones I think were two sixteen inch sticks side by side, they were to hold the piles that was the only way to hold the piles firm until they were driven down and the current was sufficiently strong to break the piles off.

Q. The current was sufficiently strong to break the piles off

A. Yes

Q. How long did you work there with your steamboats and barges and your pile driver without accomplishing anything

A. I could not state the exact time but I myself was not there very much more than a week. there had been a very large am-
1312 ount of money expended there before I went —

Q. Every body had tried their hand at it before you had?
A. Yes.
Q. And you tried your hand at it and failed?
A. I did
Q. You gave it up?
A. I gave it up before I took hold of it but still I took charge of it.
Q. Do you reccolect being offered $10.000 to close that break?
A. I think I was and declined.
Q. You declined it?
A Yes.
Q That break was closed — When was it closed?
A. After this work had got out that I put in I took soundings in the rear. The river had fallen considerable in the mean time and I reccommended the building of a sack dam around through the fields. That was done finally to shut the water out. But it had fallen so that it rounded

the currant very much. I judge it to have been in the circle over a thousand feet long.

Q. Can you describe the section of country that, that break flooded with water from one to ten feet deep?

A. It flooded from R street and the district known as the pocket was flooded.

Q. That runs down to Freeport does it not?

A. Yes nearly.

Q. Very nearly to Freeport?

A. Yes. Of course a portion of the country back below Freeport was flooded.

Q. The water kept right on down did it not?

A. Yes.

Q. On the inside of the levee?

A. Yes.

Q. How far down did it go?

A. It goes down to the Sloughs below Walnut Grove. Its outlet would be below Walnut Grove.

Q. You recollect the nature of the deposit left by the water

from that break?

A. Immediately below the break it was sand.

Q. Well down on the Riverside Road. What was the nature of the deposit there?

A. I could not state.

Q. Say about where the school house is?

A I could not state exactly what the deposit was there. I know the road was washed away. The first time I went over it before it had been repaired it showed where the current had washed the road.

Q. What was that country being used for abreast of Lovdal's at that time?

A. For fruit and hops. The break run right in-to a fruit orchard and hops. Right immediately in front of the break a portion of it was a hop field I think and further in the rear there were fruit trees.

Q I will ask you if at that time what is called the Y. street levee of Sacramento had been constructed?

A It had not

Q. I will ask you whether this water that threatened the integrity of the R. Street levee did not come through the Lovdal break?

A. Yes.

Q. I will ask you whether Sacramento City between R and Y streets was not then laid off into lots and blocks and if there were not houses down there?

A. Yes

Q. And trees and brick kilns?

A. It was not very thickly settled but it was laid off in blocks and there were houses there—quite a good many houses.

Q State whether the gas works which supplied the city laid within that overflowed territory? A. Yes.

1316

Q. State whether the City Cemetery did not lay within that overflowed territory, and I will ask you whether you do not recollect that some forty or fifty acres of the Cemetery at that time was overflown?

A. I could not say whether it was or not. I know that some of it of course was not overflowed.

Q. Higher than the head stones in a great many instances.

Mr Catlin. He has stated that he does not know.

Q. After you get down to Grand Island How much of a tide do you have?

A. At this time or in early times?

Q. In early times & at full tide

A. I should judge it would have been about four feet at the head of Grand Island

Q. How much of a tide is there there now?

1317

A. I could not state positively from my own knowledge. I should judge it not to exceed eighteen inches.

Mr Catlin Where is this point you refer to?

A. At the head of Grand Island at Kerchevals place.

Mr Cadwalader. Kercheval lives right at the head of Grand Island?

Mr Catlin You are mistaken he does not live there.

A. He is dead.

Mr Cadwalader. Where did Reuben Kercheval live Captain?

A. At the head of Grand Island

Q. He lived there for twenty years did he not?

A He lived there a long time.

Q. When did he die?

A. I think within the last year

Q. Do you know of any attempts being made within the last five or six years to maintain levees on Grand

Island? A. Yes.

Q Well did they succeed or fail

A They failed

Q Who were the principal persons, who were engaged in trying to levee in that Island

A General Williams probably was more largely interested than anyone else. He was the largest interested of anyone. Mr. Herchard was interested

Q How many levees did General Williams build in the same place in the last five or six years

A I could not state. Perhaps at the Hogs Back, They have built that one to my certain knowledge twice. To my certain knowledge it has been built twice.

Q How much of a base did General Williams give his levees

A I could not state that

Q Well about. Fifty of sixty feet

A Yes, at the lower end of the Island the levees were much higher. I judge the base there in places was as much as from 40 to 60 feet, and

towards the head of the Island
it was not near as much
Q As a matter of fact from Fremont
down to Cache Slough on that
side of the river, the levees were
nearly all swept away, were
they not.
A Particularly, between here and
Fremont, there is a large
amount of levee on the other side
that has been washed away
Q On the other side, I mean from
Fremont down to Cache Slough
A I should judge the brakes between
Sacramento and the head of the
Slough was at least nearly
a mile in extent
Q That is in a mile of levee there
would be one eighth of a mile
of brakes
A The brakes put altogether - reckoning
the distance of all the brakes would
be equal to a mile perhaps more. I
am not well posted in the ~~overflow~~ water
they have been leveed since the last
overflow
Mr. Catlin - Between what two points
A Taking it from Sacramento to the

head of Steamboat Slough, I should judge there was at least a mile of the levee gone

Q The extent of all the brakes would amount to a mile A - Yes

Mr. Cadwalader - What is the character of the brakes in a mile opposite this City, which commences at the mouth of the American river - running down a mile opposite here.

A Well I have not been over the ground down there but I should judge it to be a third of a mile perhaps more

Q How many brakes did you find in the levee between here and say six miles below this city

A There are brakes above the bridge - the brakes above the bridge you are all familiar with

Q (Quty) I am speaking of this City say from the City Cemetary down five or six miles

A - You mean that there were or are now

Q Are now

A- Those that were made last winter as far as I know are all closed between here and Freeport now

Q- When were they closed

A- They were closed during the high water, one brake was

Q- What brake was that

A- The Fern brake

Q- That was just at the head of the river side road

A- That was just below the riverside house where it used to stand.

<u>Mr Catlin</u> - How far below

<u>Mr. Cadwalader</u> - Where was the next brake above

A- I should judge one half a mile by land just across the bend

<u>Mr Catlin</u> - How far by river from here

A- From the river side house by the river it would be about I think fully a mile to the brake

Q- State the distance then

by the river below the City say from the foot of R street

A- We used to call it six miles, when we were running on the river

Mr Cadwalader- It is four and one quarter miles by the river side road, that runs as it were on a kind of a tangent Well where was the brake above the Fern brake

A- There was a brake on the Mesick ranch. I did not go to this. I could not state the length and size of that brake

Q- Mesick brake was about a mile above, that is, on the east side

A- Well by land it would not be probably half a mile.

Q- That would be at least five or six miles by the river would not it

A- Yes, steamboat measurement.

Q- What is the fall of the river between those two points say from the foot of R street - what

would be the fall of the river between there and the Fever brake and the Mesick brake

A- It should be somewheres about four inches to the mile

Q- What effect if any did either of these two brakes have in backing the water up on Sacramento

A- It would fill full It would take it up I should judge considerably on the R street levee.

Q- Did it take it up on the Y street levee, the Y street levee has been built since

A- I am speaking of the level. I dont say that it did I say that the level would have carried it-

Q (Int,) I will ask you whether since '78 there has not been a large levee built here, called the Y street levee

A- Yes, there has, but I have just passed the end towards the river and I have never been out on the levee

Q- It runs from the river to-

Mr Catlin- (Intg) He says he does not know where it runs

A- It would start pretty near the Cemetary, at the north end.

Mr Cadwalader- It runs over to what is called Poverty Ridge don't it.

A- I presume it goes out to the highland of course

Q- You have crossed that levee in going down the river side road.

A- I never have but once since it was built and not on the river side road. I have passed on the road on the levee on the river front

Q- I will ask you whether the water from these two brakes didn't set back to to the Y street levee in Sacramento.

A- I do not know as I exactly understand you.

Q- I will ask you whether the water coming out of the Sacramento River at both the

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Messick and the Fern brakes
didn't set the water back
on to the south slope of the
Y street levee
A- It must have done it.
Q- It must have done it,
didn't it submerge-
Mr Catlin objected to the question
upon the ground that it was
leading.
Mr Cadwalader - Q- State if you
know how deep it submerged
that country
Mr Catlin - I understood him
to say that he does not know
about that but he says it
must have reached the Y street levee
A- At the time I was at
the brake the ~~heafter~~ heft
of the water was shut off
but the back water was
standing on the rear end of
some of the orchards
Mr. Catlin - Q- Which
brake are you speaking of
A- I am speaking of the
Fern brake
Q- You are not speaking of

the Lovedale brake

A- No sir

Mr Cadwalader- The Lovedale brake was closed in 1878 and this was in the spring of this year. When did the brake occur at Mesicks and Lovedales

A- I could not give you the exact date but sometime during the high water of February 1881, this last year

Mr Catlin- Do you call the Mesick brake the Lovedale brake

Mr Cadwalader- No sir. I will ask Your Honor to view this country sometime during this trial and we will furnish the requisite conveyances

Mr. Cadwalader- The Mesick and Lovedale brakes occurred some time in February or March of this year did they.

A- The Fern brake occurred about, during the highest water that we had

Mr Catlin — When did the Mesick brake occur.

A— I could not state whether it was before or after the Fern brake

Q— Was it in the same winter, It occurred in the same winter

A— It occurred in the same winter, Yes

Mr Cadwalader— The Lovedale brake was in '78 and the Fern and Mesick brakes were in 1881.

Q— I will ask you whether or not the water from these two brakes known as the Mesick and Fern brakes did it cover the same extent of country that the Lovedale brake did

A— Yes, except, it would not back up so high as Sacramento

Q— And of course excepting the country between Y street and R street

A— Yes sir

Q- You recalled the pumping system that was established in this City in 1881

A- I didn't pay much attention to it. I know they were pumping there in 1881. In '78 I was more familiar with the pump that was down at that time.

Q- In '78 where were the pumps down there

A- The large pumps were situated at about 6th street I believe

Q- On R

A- On R.

Q- How many pumps were running ~~there~~

A- I couldn't state the exact number. There were several there was one very large pump furnished by our company.

Q- How many engines did they have

A- I recollect of there being two engines

Q- How many pumps were

running.

A- One running, only one pump the engine I think run more than one. It was a system of what we call Chinese pumps and the were run with a small engine

Q- That are the mose effective pumps in the world are they not

A- I could not say that they were. They are cheap and easily and quickly constructed

Q- Do they discharge much water, with the application of a comparitive small amount of power

A- I could not answer that question of science

Q- The water was pumped out of Sacramento City and into what place

A- It was pumped, when they were running on R street, they were simply pumping the water across R street,

Q- They were pumping it into what

A- Into the water below

Q- The water came from where

A- That water had come in at that time from the Lovedale brake

Q- Now I will ask you if you know in 1881 after the construction of the Y street levee of still larger pumping apparatus being put on the Y street levee.

A- I did not see them, at all I was not down there, I believe them to have been there from general report

Q- You do not recollect how long the water stayed on that country down there both years

A- I could not state

Q- I want to ask you something in regard to the gauge at the foot of K street, Is that guage the old '49 gauge?

A- That is the same level; it is a different board; it is the same level as the first

guage that was established, which was known as the '49 gauge, although, it was not established in 1849

Q— Does that rate the surface of the water of the river by your old '49 gauge.

A— Yes sir

Q— For instance 26 feet would mean 26 feet from zero; that was established in 1849

A— Yes

Q— Whether that zero would be down in the mud or in the water A— Yes

Mr. Cadwalader— Your Honor understands that

The Court— It was explained Saturday.

Mr Cadwalader— I will ask you about certain changes on the Yolo shore above the bridge. I will ask you how far you can distinguish the land of the original shore of the present used channel. That is ~~the~~ between the ~~channel~~ bridge and the middle of the American River

A- From snags that still show in low water by large trees which had stood on the former bank near the new mouth of the American. They must have been west of the original channel.

Mr. Catlin - That is this cut in the Yolo side you are speaking of?

A- Yes, this cut into the Yolo side

Mr. Cadwalader - When you come down about half way you recollect whether there are two trees or stumps of trees now visible.

A- Do you have reference to the ~~stumps~~ snags I have just spoken of?

Q- Yes, some distance down on the bar

A- That would be about half way I should judge from the mouth to the bridge

Q- You recollect those trees shaded a distillery that once existed on the bank

1333

A- I could not say that I do

Q- Well those two stumps ~~of~~ or snags ~~sycamores~~ represents the old Yolo shore do they not A- Yes

Q- Now Mr. Catlin asked you the condition of the water in front of this City at this time In front say of the foot of K street, I will ask you what has been the condition of the water in the Sacramento River during these years, since the last of May for clearness as compared with previous years

A- It has been as a whole clearer, that is through low water season

Q- Well this year in the Sacramento we have had pretty nearly clear water

A- It has not been clear, but it has been decidedly clearer than it was the year before

Q- What effect would ~~the~~ a large quantity of clear water have upon those gorged river channels

A- Without sediment the

tendency would be to deepen the channel and wash it out

Q- Wash out the stuff that is now deposited there

A- Yes

Q- To a greater extent than muddy water would do it, or water charged with sediment

A- To a greater extent than muddy water would in low water

Q- When as a matter of fact does the greatest scouring and when does the greatest deposit of sediment occur in the river channel of the Sacramento, say below the mouth of the American

A- The greatest scouring occurs during the highest stage of the water. That is, the first of the high stage. The greatest amount of sediment would come into the river from the other streams during that time

Q- In other words, after a flood winter we are apt to have better water than if the water was not exceptionally high

A- Not always

Q. Just describe it then?

A. High water has a tendency to widen and wash away those high bars. The first season we sometimes find certain places where the water has spread out, and we really have less water in the channel than we might have the following season after it had filled in again on the shores and had become more concentrated.

The Court. To what extent is that scouring by the high water captain?

A. It is very great at first — on the first big raises. The time last winter when a pier floated away I am satisfied in my own mind that it scoured within twelve hours at least twelve feet of sand. It deepened to that extent.

Q. In the old channel?

A. Yes

Mr Cutler. Do you think that it scoured down to the original bed.

1336

A. I think it went very near down to the original bed.
Q. That is at the piers?
A. Yes.
Q. These piers that were floated away were on piles?
A. The pier that floated away was on piles that had been driven down.
Q. The piles had been driven down into the original bed of the river?
A. I do not think they were. In fact I am told that they were not driven over twenty feet into the sand and they were not driven into the original bed.
Mr Cadwalader. You say that sometimes during these flood waters it will scour out twelve feet of the sediment in the bottom of the river?
A. In a very short time
Q. Well where will that go to?
A It seeks the first slack

water that it can get into that is on these points. It fills in there but the channel that is the centre of what we call the weight of water scours the entire distance during the first high floods. After the river becomes full below the current becomes slacker. The first that we noticed of the filling in when I was running on the river after the big flood would be immediately above Cache Slough and along at Hogs back and through there. And then as the water receded we would notice the bars showing themselves in the river.

Q. How far would the scouring process continue below here?

A. In the centre of the channel I believe it to continue the full length of the river

Q. When do the greatest deposits

of sediment occur in the river
A. They are more noticeable
after the floods after the
strength of the flood is
gone. That is the deposit
filling here although I believe
the largest amount that
comes from the American
and the other Rivers comes
during the extreme stages
of high water.
Q. There is one other question
I want to ask you and
that is in regard to the
movement of these bars
on the bottom, and I
will ask you to state
How in case there is such
a movement it manifests
itself to the navigator.
Mr Catlin objected to the
question on the ground
that the witness had al-
ready testified on that point
The Court Is it something
that you have not already
explained.
A. It is something that I ~~have~~

have not already explained. I will state further. It is relation to showing waves and it is what I call riffle. The quick sand as we call it is moving particularly above here all through the low water season and it has a tendency to shoal up. I could mark it out better. For instance we come to one bar extending clear across the river.

Mr Catlin (Intg) State how far above.

A. Immediately below that bar the water would be quite deep. In other words it drops off very abruptly and then the tendency of this rolling sand is to gradually shoal. We come down then say One hundred yards or more below and we find that it shoals up again until we come to another one of these riffles and it breaks off into a deep place

and so it goes like saw teeth, taking this (indicates) for the bed of the river the sand works like that (indicates). At these points of course the water is shoaler and consequently it is more rapid and it always shows a little riffle below. That is why we can find where the channel is and discover any change in the river.

Mr. Cadwalader Q. How long and what has been the size of some of those movable bars?

A. I can~~not~~ state. One bar below Fremont — that is before the wing dam was put in, I think it was two years ago — we came down there and in crossing from the west shore to the east our channel ~~lead~~ run right to one of these bars. In sounding there we had five feet of water while a little above there was not more than

a foot or eighteen inches. That is in some places. On the western shore the bar run out into deeper water.

Q. What would be the rate of movement of these bars down stream?

A. ~~They~~ It would be very slow. On haycock shoals I think I have noticed a movement down stream of perhaps twenty to forty feet during one trip. They run down until the finally drop~~ped~~ into deep water and there is another one above following it down so that there are continually one or more of these riffles on the shoal at the same time although they are constantly moving.

Q. This movement is on the bottom. The movement is on the bottom?

A. The movement is very similar to the movement of sand by the wind. It works very

much in the same way.

Q. You were asked by Mr Catlin in regard to the effect that a break had — what effect it had upon the water. I will ask you what tendency a break in the levee has upon the current above and below the break?

A. It has a tendency to lower the water in the immediate vicinity of one of these breaks and it has a tendency to reduce the current below very materially.

Q. It also reduces it above does it not?

A. As the water falls it reduces the current to the extent of its lowering the river. It would reduce the current above.

Q. Suppose a break occurs in a section of the river bank of this river during high water and it is one hundred yards wide. Will

there be any reduction in the height of the river two hundred yards above the north lip of the break and two hundred yards below. That is I mean in the height of the water?

A. Yes for that distance with a break like that the current on the inside will run up stream to the break for a distance of more than one hundred yard from the break. It would draw the water above.

Q. Take it two hundred yards above and below the break I will ask you whether it will have any tendency to reduce the height of the column of water?

A. Would you rather have facts stated?

Q. Certainly?

A. In the break that occured in the bend below here in 1828 the water in
1344 a very short time dropped

on our gauge showing the effect upon the water for that distance.

Q. How much did it drop?

A. I think some four to six inches in a very short time.

Q. That would be from four to six inches above. Now take it at the same distance below that would be say a mile below?

A. Well a mile within the influence of the break it might be a little more but very little more of a drop.

Q. You say there would be a very great impairment to the velocity of the river below the break.

A. It would decrease the velocity blow in proportion to the amount of water taken from the river.

Q. Now is it not a fact that if you have a straight river.

Mr Catlin (Intg) objected to the

question upon the ground that it was leading.

A. I will state before I leave the stand that on yesterday I was asked a question if you remember as to the difference between the two gauges. I can give the exact difference if it is any object.

Mr Cadwalader. All your measurements are from one gauge?

A. Yes, our measurements are from one gauge although there have been for instance some newspaper records that have been taken from the wrong gauge and they are apt to mislead.

The Court. How much is the difference?

A. It is two feet and nine inches.

Q. The other gauge is two feet and nine inches above the ~~co~~ 1849 gauge?

A. Yes we have two gauges and some figures are kept

from the outer gauge. Here they are corrected by the 1849 gauge and you will find in all the corrections that it makes two feet and 9 inches more
Mr Rhodes: Do I understand you that the zero of the latter gauge is two feet and 9 inches higher than the zero of the 1849 gauge
A. No Sir, On the gauge that I refer to the zero was two feet and nine inches higher than on what I call the 1849 gauge. That gauge has been removed it has been done away with. That gauge was still in existence when the two gauges were there.
Q. That would make no difference in your testimony as to the difference between high water mark in 1849 and high water mark in 1862?
A. My testimony has been all from what we call the

1849 gauge.

Q. Allow me. You gave testimony the other day in relation to the difference between low water mark in 1849-50 and the low water mark of 1879-80-81 for instance. Does this correction ~~in~~ of your testimony about the gauge affect that portion of your testimony?

A. Not in the least

Mr Catlin. The present gauge is simply a new board that has been erected to supply the place of the 1849 gauge?

A. The 1849 gauge is under the wharf you can see it yet.

Q. There was a gauge used some years ago that started with a zero two feet and 9 inches above the 1849 gauge?

A. Yes

The Court. That was explained on Saturday.

Mr Catlin. Now in 1878 at the time of the Lovedal

break the effect of the flooding of the lands on the east side of the river as I understand you was that the water backed clear up against the R Street Levee?
A. From the Lovedal break yes.
Q. The R. Street levee is the levee upon which the Sacramento Valley Rail Road track goes out of the City?
A. Yes,
Q. There were pumps put in to pump the water out from the inside?
A. Yes. from the City side
Q. Was not that water that accumulated on the inside and was not that accumulation very largely due to the natural drainage of the City?
A. All of the water furnished the City and the drainage from that water had to be pumped out again.

Q. It accumulated there and was pumped out over the top of the R. Street Levee?

A. Yes

The Court

Q. And sewage matter?

A. Yes and all the sewage.

Q. Mr Catlin all the water that accumulated on the natural surface?

A. The rain water together with the sewage water.

Q Did not a large amount of water come from Burn's Slough?

A. Yes some came in from what we call Burn's Slough.

Q. Has not that system of pumping been more or less in use here as far back as 1855. I will ask you whether you do not remember the time when William S Long a practicing attorney of this city took a contract to pump out the water over the R. Street Levee?

A. I remember of seeing the pump but I do not remember

the year it was, now.
Q. How far back was it as near as you can recollect?
A. I am very deficient in placing dates. It was several year — quite a number of years prior to the pumping I spoke of in 1878.
Q. Do you not remember the circumstance at several times in the winter season or in the Spring season when water had accumulated on P. street and Q. street and that pumps were put on the R street levee to pump the water out over the levee and into the ground below R. street? ~~on~~
A. I could not state positively except those three pumps. I know that prior to 1878 I have seen them pumping at some considerable time prior to that. It must have been several years when they pumped over the R. street levee

into the River.

Q. Can you not state from general recollection whether you saw it as far back as ten years before that?

A. I could not state positively. It might be as far back as the summer of 1862 but I hardly think it was.

Q. I will ask you whether these lands that were flooded by the Lovedal break and the Fern break and the Musick break were not flooded nearly or quite as extensively by the floods of 1861 and 62 and also by the floods ~~fr~~ of 1852 and 53.

A. In 1861 & 2 that is the winter of 1862 to the best of my judgment the water was higher below the R street levee.

Q. Over this same territory that was flooded by the Lovedal break?

A. Yes

Q. It was some higher there then than it was in 1878?
A. I think the water was higher, deeper at that time.
Q. It covered more ground?
A. Yes.
Q. If it was higher it would naturally cover more ground?
A. Yes. Because the whole basin below here was completely filled then.
Q. Between the City Cemetery and the bank of the River?
A. Between there and the low place known as Duck Lake. That holds water all the year around?
A. Yes. There used to be tules growing between the City Cemetery and the River.
Q. I will ask you whether between the Sacramento River and what is called Brannans addition as it is marked on this map there was not a large strip of tule and lake in there

A. The tule used to extend pretty well up toward R street. I could see tules half way between there and R. Street.

Q. Was there a lake there extending from R. street clear down to the Cemetery?

A. I believe that there was a small lake there.

Q. Is it correctly laid out on that map hanging on the wall. Is it located generally. There is the City Cemetery and here is Brannans addition (pointing).

A. Yes. I believe that to be correct.

Q. And the tule extended from here nearly up to R street?

A. Yes

Q. I will ask you whether you do not remember that in 1867–8 that same country was also overflowed?

A. Yes.

Q. In the winter of 1867–8,

When I say 1867–8 I mean to ~~refer~~ cover December 1867 and January, February, and March 1868?

A. I believe it was.

Q. Was it not also covered by the floods of 1852–53 after the great fire in Sacramento?

A. Yes.

Q. Did not the water then extend up and cover the lower part of the city away above R Street, and clear into the city above R. Street?

A. It covered particularly between 4th and 6th Streets. It was a standing lake between 4th and 6th Streets this side of R. It was a very low place and the water was standing in there.

Q. When the levee breaks a mile below this city or five miles below this city on the east side or even at any place between this city and Freeport on the east

side, are not the waters of the Sacramento River discharged into that tule basin, and do they not back up clear into the lower part of this City — supposing there are no levees to obstruct it?

A. After filling that basin I believe it comes back up to the R. Street levee

Q. At the time when there were so many men at work on the R. Street levee, state whether or not that was for a long or a short period of time?

A. A very short period

Q. I understand you then, the water backed up against the R. Street levee. Was that still water there?

A. That was still water when the wind was not blowing

Q. State what occurred that caused this danger to the City?

A. There was a very heavy wind

Q. There was a very heavy
1356 and continuous south wind,

was there not

A. For all that day and I think for at least a couple of days. That day it was blowing the hardest though

Q. That wind blew this still water into waves and dashed it up against the R. Street levee, and washed it? A. Yes, it washed it

Q. About how much? Had the R. street levee given away would the water have come into the city? A. Yes.

Q. How far would that water have extended into the city suppose that levee had been washed entirely away?

A. I think it would have covered the South portion of the town

Q. Below what streets running East and west?

A. Below N. Street

Q. It would probably have come up as far as N.?

A. Yes.

1357 Mr. Cadwalader. Did not it

Come up to N. Street without coming over the levee?

A. In places I believe it did

Q. From pure sipage.

A. I was speaking of N street and I was thinking when I spoke that that had been considerably raised

Mr. Catlin. The upper part of N. Street has been raised, that is where Mr. Cadwalader lives. I will ask you Captain to point out on that map the place where the steamer Dover navigated the tule last winter and what her business was over there

A. She sailed up that way on the morning of the 4th of February and the object of sending her in there, was to save rail road iron and material

Q. State whether the water went ~~across~~ over the top of the railroad grade and carried the track away? A. Yes

1308

Q. How far down did it float the iron rails and ties?

A. Some of them lay now well down towards Main Prairie.

Q. Point out where Main Prairie is? A. She picked it up in different places. She was all over down there. She was in fact clean from the bridge, down. She went in with a barge and the water had fallen so that she came out with the barge into Cache Slough, and she must have had over 200 tons of iron besides the ties that were on the barge, that she brought out into Cache slough at that time.

Q. State the extent, the width and the depth of the current through the tules down on the west side of the river this last winter at the time the Dover was navigating there and how wide the country was navigable?

1309

A. She went into the tules through a break that was down on the west side perhaps half a mile below, what we have been calling the Fern Break

Q. How wide was the country there that was overflowed so that it could be navigated by the Dover?

A. I think she could have gone out to the west, ten miles.

Q. State what the rate of current was in the water flowing through the tule country, South, towards Cache Slough?

A. I was not out with her, I was not out on her myself although I know it was not very great there. It was very slack

Q. What kind of a current was it that carried the railroad iron so far down?

A. The railroad embankment itself acted like a dam to

1360 the water that came down

from above and the first fall, I am told, over it was about two feet

Q. So that the railroad grade going across the tules acted as a dam to the upper waters?

A. Yes.

Q. And kept the water above some two feet higher than it was below? A. I heard people remark that it looked to be two feet higher above

Mr Cadwalader. There was a water way through there of about three miles was there not?

A. I do not know the exact amount of the water way. I know that it choked up the water way to a certain extent with the tules that washed down from above

Mr. Catlin. What do you call a water way?

A. The trestle work

Q. And between Washington and Davisville how much of

1361 the rail road grade consists

of a bank, where it is graded up high above the surface?

A. Well, the grade between here and Davisville, the distance they call fourteen miles by rail. It might be more but say there are three miles of open work

Q. Out of that how much of it is trestle work left open for the current to flow through?

A. I could not give the exact distance

Q. Well, about?

A. I judge last winter that there may have been a couple of miles of trestle work. There is still more now

Q. Since the reconstruction they have left a wider opening? A. Yes.

Q. But previous to the flood of last winter, these openings amounted to no more than about two miles?

A. That would be a rough guess

Q. And yet that two miles of

1362 opening was not sufficient

-to let the water through

A. At the first of the flood that is where it went over at the time the iron floated off.

Q. When the flood was at its hight?. A. Yes.

Q. Two miles of opening were insufficient?.

A. The tule that floated down from above in a measure obstructed the water ways

Q. So in reconstructing the road between here and there they added a mile or more to the openings?.

A. They have added some, I do not know how much

Q. I will ask you in a general way whether all of the tule country that is marked on the map there on the west side of the river and a good deal of it that is not marked on this side of the river was not wholly overflowed by the big flood

1363 of 1861-2?. A. Yes.

Q. Do you think there has been as much water there at any of these floods as there was in the flood of 1861-2?

A. From Sacramento down I think the water in 1862 was higher than it was in 1881

Q In 1881 you think below here it was a little higher?

A. No sir, I say that it did not get as high as it did in 1862

Q. I will ask you whether at any time since 1862 there has been as much water in the tule basin as there was at that time. Perhaps you do not understand my question

A. Yes, I think I do. The water above the bridge in 1881 above the Railroad was higher than it was in 1862. Below the bridge particularly as we go down towards Cache Slough it was not as high

Q. What made it higher above?

A. I think

1364 the obstruction of the railroad

track.

Q. The railroad grade acts as a big levee right across does it not? A. That made it get higher above

Q. My question was, as to the quantity of water that came into the tule basin from Knights Landing to Cache Slough. Has there ever been as much in it since 1862 as there was then.

A. The quantity of water from our upper rivers here I should think was about the same as it was in 1862. To make that more clear I will state that in 1862 the San Joaquin was higher and it backed it up so that in the lower portion of the river last winter the water did not drain as low - The water did drain lower last winter than it did in 1862, on that account. I believe the floods to have been about the same in hight from

1365 the records from the upper

rivers, the Sacramento, the Feather, and the American.

Q. Do you think that from the Sacramento River, the Feather River and the American River and the tributaries of the Sacramento River above here that it was about as high in 1881 as it was in 1861-2?

A. Yes.

Q. But it did not get as high below here because it was not obstructed in 1881 by the San Joaquin River as it was in 1862? A. Yes, that is in hight

Q. Was not this tule navigated here for some weeks or months by a steamer that ran between here and Swingles Ranch last winter? A. Yes

Q. Carrying passengers?

A. Yes.

Q. For how long a period of time about?

A. I should say not less than two months.

1368 Q. What steamer was it?

A. The little steamer, Oro.

Q. A small stern wheeler?

A. A side wheeler. She was a small affair. She ran there until the railroad was rebuilt so that they could pass over on cars.

Q. The rebuilding of the railroad stopped steam navigation between here and Davisville? A. She kept it up until they made the connection with hand cars at each end.

Q. About what is the ordinary fall of the Sacramento River say between this City and Steamboat Slough, or the mouth — taking it right through to the mouth of the river. What do you call it

A. I could give you a closer statement taking it from Sacramento to the head of Steamboat Slough at Kercheval's place. I ran levels there from marks that he had

1367 made. Taking the flood of

1861-2 and when the highest water here was twenty-four feet on our guage it was about fourteen feet — I cannot recollect exactly the inches down there, but it was about fourteen feet of a raise at this place, or as we reckon the distance it would show a flood fall of about four inches per mile

Q. What is the fall of the river at low water between the same points?

A. It is much less

Mr. W. O. Belcher This was determined by your gauges one at the head of Steamboat Slough and the other here and only in that way?

A. Yes by our gauge here. Kircheval had a mark at his house and I run a level from there to the river myself and established a mark there. That was the highest water of 1862. Our high water here was about twenty four

1368

feet and that was about fourteen feet above the low water of 1849

Mr. Catlin What is that level at Kincheval's of fourteen feet?

A. The extreme high water of 1861-2

Q. You took the extreme high water of 1861-2 as given to you by Mr Kincheval and the extreme high water you know of your own knowledge to have been here? A. Yes, by this same gauge here

Q. And the difference between these two divided by the length of the river gives the fall in inches? A. Yes, about four inches I believe. I know we figured it out. That is the difference though. It would be ~~twelve~~ ten feet

Q. You did not run the level by instruments?

A. I run it with a level, with what is called a spirit level

Q. From where?

1369 A. From his mark. I got

a straight sight from there to a tree that was standing on the bank

Q. At what place?

A. It was nearly abreast of his place

Mr. W.C. Belcher From that point to here did you take the level with an instrument to determine the fall?

A. No sir, not between Grand Island and Sacramento I never did

Mr. Catlin. You merely got the level of the water there by his spirit level? A Yes.

Q. From this point or mark?

A. Yes.

Mr. Catlin. We are willing to take that Kuchenal mark as being correct. Mr. Kuchenal was an old resident there and he would be very likely to have had it correct

Mr. Cadwalader We will introduce the State Engineers surveys of this river upon that point

1370

A. We call the distance thirty miles. That was the Steamer distance and we call it that from Sacramento to Kirchevals at the head of the island

Mr Cadwalader How far is it from Sacramento to Collinsville?

A The way we reckon distance it would be pretty near Seventy miles, the way the river runs, that is, Steamboat miles

Mr. Catlin. Can you give us at the same time about what the distance is in a direct line from here to Collinsville?

A. It must be down on the maps of course. I do not know the exact distance

Mr Cadwalader How far is it from here to Rio Vista

A. Rio Vista, we call it, Sixteen miles this side of Collinsville

Q. How far is it from here to Clarksburg?

A. About Eighteen miles we call it, by the river

Q. When you were navigating the tule water, ~~whether~~ with the Dover last winter, was there anything out on the West bank of the river Except the broken fragments of levees from Fremont down Mr. Catlin. We will admit there was not

A. When we first went in I do not think there was anything. The water was clear on the levees all along

Q Did not people living back from the river have to be rescued with the stock?

A. Yes, we had steamer out for that purpose

Q. And their stock had to stand in water until the boats could get to them?

A. The Dove I remember brought in one family and a small amount of stock that had been surrounded with

1398 water down in the Edge of

the tules

Q. Is it not a fact that the water was running over the west bank between here and Fremont in almost one sheet?

(Mr. Catlin objects to question because it was leading and it was withdrawn)

Q. Where did the water come from that did run into the tules and that washed away the Railroad last winter?

A. It came over the banks in places between Sacramento and Knights Landing. +

Q. I mean where the principal ~~break~~ wash occurred over the track?

A. One of the largest washes was from the English break

Mr. Catlin: The English break is about three miles above here, above the mouth of the American?

A. Yes, there was a large break there, and the current

1372 from that, had acted almost

directly on the railroad

Mr Cadwalader Did not the water last winter extend a mile further west on the highlands than ever before?

A. I could not tell you sir

Q. It did at Knights Landing. It came nearer to the town of Knights Landing?

A. It came nearer to the town of Knights Landing they tell me there than it ever did before

Q. You know where Sewingles place is, do you not?

A. Yes.

Q. Where did the Dover land during the trips she made?

A. It was this side of Sewingles at the time she went out there, that is I have been shown the point and in fact some of the iron is left there

Q. You do not know how far the water went further west last winter than it ever did before?

A. I believe it did above the railroad track. I think it went further west. I dared not state the exact distance or anything exact.

Q. That same railroad track was washed away in 1878 was it not on the night of the Inauguration Ball at the time Booth was inaugurated?

A. I think it was.

Q. And it was impossible to go over there that winter except on foot?

A. I was trying to place it positively. I think that is the date though. The travel was all thrown on to the river.

Q. The succeeding winter there was no trouble out there was there?

A. I think not.

Q. Nor the next? nor until the winter of 1881

A. In 1878 it was washed away

1395

Q. There was no cessation of the operation of the road there —

A. (Intg) Not since 1878 until 1881

Q. Was there any in 1878?

A. Yes, it all went away, that is, quite a large amount of the road went away

Q. That occurred immediately west of here?

A. Well, out on the road

Q. That only stopped operation —

(Mr. Catlin objected to question on ground that it was leading)

Q. State how long?

A. I will state this that the water did not come as high in 1878 as it did in last winter

Q. I was asking the effect on the railroad track?

A. The wash that demoralized the railroad so bad was more particularly very near the same day that the R Street

1376

house was in danger

Q. But I was asking you this, how long was there a cessation in railroad travel in that winter?

A. I should say at least a month, or perhaps two months. it might be more

Q. Are you sure of that?

A. No sir, I am not

Q. Do you recollect whether or not it was not exclusively confined to this end?

A. Where it went entirely away?

Q. Entirely. A. Yes, it was confined — The railroad went entirely away I believe at this end but the roadbed itself in places was washed half away so that they could not run trains over it

Q. Where the railroad iron disappeared, the ties also disappeared did they not

A. Where the railroad iron left the track it was floated

off by the ties.

Q. They acted as a raft

A. After being in the water a little while they would sink, they were just barely floated at first

Q. The bed of the tules is about as deep as the bed of the Sacramento River is it not?

A. I do not know. I have heard it stated that there was something like seventeen feet to the deepest place, I think, from the natural bank of the river to the center or the deepest portion of the tules. I could not swear to anything though

Q. That water channel has always been there has it not to your knowledge?

A. Through the tules?

Q. Yes.

A. That water channel has always been out there extending down from Fremont to Main Prairie through the tules. These tules extend

1378

from near Knights Landing all the way down to the mouth of Cache slough.

Q. Now in regard to the amount of rain fall in 1862. How much greater was it than in 1881. In 1861-2?

A. I do not know Exactly. It was more — The Rain fall at Sacramento in 1861-2 than in 1880-1

Q. Was it not nearly twice as great? A. No sir

Q. Was it not much larger in 1862 than it was in 1880-1?

The Court I presume you can prove the Exact rain fall by other witnesses

A. Of course I could tell by going to my office. I have the figures there

Q. I will ask you whether the American river last winter was not proportionately much lower than it was in 1861-2. That is whether there was not a much smaller

1379 quantity of water in it

A. I would not be able to state that

Q. I will ask you whether the great rain fall of last Winter was not confined to a line that came no further South than the head waters of the Feather River?

A. They were heavier in the Northern and western parts of the State in proportion than they were in the range of mountains East.

Q. You do not know whether the American River was proportionately as high last winter as it was in 1861-2?

A. I could not state whether it was or not

Q. I will ask you whether or not it has been noticeable here since 1878 that is since that year, that we have not had any heavy Eastern storm here, that is any storm affecting the waters of the American river to the same

1380 Extent they had previously

been affected?

A. I cannot answer that positively except as to last winter. I do remember that our rains were heavier rains in proportion — They were heavier north and west. That is taking it from about Shasta

Q. The storms were heavier there in proportion?

A. Yes. heavier in proportion than they were east

Q. The storms in this country come from Oregon do they not?

A. I can tell when they are here, but I can not tell exactly where they come from

Q. Did you notice the difference between the effects produced by the overflow of waters in 1862, and these of 1881, so far as sediment was concerned?

A. There has been more sediment of course latterly. More

1381 this last winter that there

was in 1861-2

Mr. Catlin. You stated to Mr. Cadwalader that last year you knew of some families that were rescued by boats. Was not that more largely the condition of things in 1861-2 than it was in 1881?

A. Yes

Q. There were more extensive overflows? A. Yes.

Q. And more families —

A. (Intg.) Yes, at that time they had less mounds and their houses were not near as high as now, and they were not so well posted and there was more suffering in 1861-2

Mr. Cadwalader. They never had any trouble up to 1862 from 1852?

A. From 1852-3. I think not

Mr. Catlin. Not so much but had not the tule basin frequently been filled up?

A. It had been partly

1382 filled, but not to such

a great extent

Q. These floods you mention in 1878 and 1881 and in 1872 if there was any then, had destroyed the rail road — did not Cache Creek and Putah Creek largely contribute to the destruction?

A. Yes, to the filling

Q Were not some of these openings under the railroad made expressly for the purpose of letting the Cache Creek water discharge and the Putah Creek water, or how is that?

A. Not expressly. Cache Creek loses itself in the tule quite a distance above

Q. Some twelve miles above?

A Yes, and Putah Creek comes in below the railroad.

Q. But the waters of these two creeks very largely contribute to the height of the water in the tule? A. Yes.

Q. I will ask you whether

1383 they do not generally

come first and fill the tule pretty well? A. Yes, they come in first, but they are short streams

Testimony of

C. W. Clarke

Called for plaintiff - sworn

Mr. Cadwalader. Q. Where do you reside?

A. I reside in Sacramento

Q. What is your business

A I am in the cattle business

Q. Do you own cattle and ranches in different parts of the State? A. Yes.

Q. In what different parts?

A. San Luis Obispo, Kern, Tulare, Fresno, Lassen, Shasta and Sacramento Counties

Q. Is the bulk of your cattle business in this neighborhood or elsewhere?

A. It is elsewhere

Q. What proportion of it

A. Well, we have this for a summer market

Q. You reside here, do you?

1385 A Yes.

Q. How long have you resided in the Neighborhood

A. I came into Sacramento in 1850, the 20th of August. This has been a kind of head-quarters for me, but I have lived in other parts of the State. But I have generally done my banking business in Sacramento

Q. You lived for a long time yourself south of the R. Street levee, did you not? In what is called the McDonald house?

A. Yes.

Q. When did you live there?

A. I lived there about fifteen years ago I guess, twelve or fifteen.

Q. Is that a large tract of land lying north of the American river? A. Yes.

Q. Fronting on the Sacramento?

A. Yes, it fronts on the Sacramento river

Q. That belongs to you and your partner, Cox, the firm

1386 of Cox and Clarke?

A. Yes.

Q. How large a tract of land is that?

A. It is about ten thousand acres

Q. How near does it come to the American river?

A. It comes across the American river, a portion of it. Where the Old River has cut through it — has cut through on our land, where that slough was; it has cut through our land to make the new river

Q. How far up the Sacramento does it extend?

A. It extends on the river up six or seven miles

Q. Up the Sacramento?

A. Yes.

Q. When did you first become acquainted with the American river? A. In 1850. When I came in here, I went out prospecting; I went up on the Mississippi Bar in

1387 1850 in August, the latter

part of August

Mr. Cadwalader (to Mr. Catlin) Where is "Mississippi Bar"?

Mr. Catlin. It is below Folsom; a portion of it about opposite the mouth of Alder creek, the north side of the river

Mr. Cadwalader (to witness) Do you know what is called San Juan ranch?

A. Yes.

Q. Where does that commence and end?

A. It joins on the Norris grant over here and runs up opposite Folsom

Q. Does your firm own the greater part of that ranch?

A. We own all the portion next to the American river

Q. You have the whole frontage on the American river?

A. Yes,

Q. How much frontage has that ranch on the river?

A. I should judge over ten miles

1388

Q. You say you were as high up as Mississippi Bar, some seventeen or eighteen miles from here, in 1850? A. Yes.

Q. What kind of looking river was it?

A. That was in about the last of August 1850. A party of us went up there to prospect for gold. We went up to where Charley Marsac had a little ferry, a ferry boat, and we went across over in the Bar to prospect. There was quite a river there then; the water appeared to be deep when we crossed.

Q. How was the river below?

A. I did not see the river below only right here

Q. How was it here?

A. The river was here full plumb; the banks were bluff and steep

Q. What kind of a bottom was it right opposite here?

A Well, we could not see the bottom

Q. What kind of water was running in it?

A. The water was pretty clear then

Q. Do you know what is called Bannon ranch

A - Yes.

Q. Where was that?

A. That is right at the mouth of the river, where the new River is at the present time, on the point

Q. That was bounded on the north, by what?

A Bounded on the north by the tules

Q. It is bounded on the north by the American river is it not?

A. No. The American river bounds it on the South

Q. Oh yes, and the new mouth of the American river is the mouth of what is called Bannon's slough?

A Yes. Well, what I have always heard was Bannons slough is the slough which was

1390 above, that runs right out

through the ranch. This slough that was out through there, I never heard called Bannon Slough; I do not know what name they did have for it. It was a big slough.

Q. What was the height of the American river in early times here?

Mr. W. C. Belcher. At what points?

Mr. Cadwalader. At all points in the Valley?

A. Well, the banks were, I should judge, from fifteen to twenty feet high as a general thing.

Q. What kind of country did it run through, for timber and for productiveness of soil?

A. It ran through a rich country, fine rich land. All along where they were cultivating everything appeared to grow finely.

Q. How high were the banks of the river at the mouth?

A. I should judge twenty feet.

1391 Q. You have had a ferry

over the mouth of those rivers, have you not?

A. Yes. Since 1868.

Mr. Catlin - You say the mouth of those rivers. Which rivers?

Mr. Cadwalader - I mean the two mouths of the American river.

The Witness - No. I had it across the mouth of the new American.

Q. When did you establish that?

A. It was established when we bought the property. There had been one there before but since that time we have used it as a kind of a summer ferry at low water.

Q. What is the condition of the old channel of the American river to your knowledge?

A. The mouth of it, right at the mouth of it is entirely filled up. That is up as high as the old banks; in fact higher than the old banks were; filled up with sediment from the rivers where it backed in and filled up.

Q. When did you first begin to notice any change in the waters of the American river as to carrying heavy

1392 masses of sediment?

A- Well about 1860. That is, I noticed it more than I had. Crossing the rivers prior to that I had always found them muddy up above, but it did not get down so far down this way.

Q- But I mean when did you first notice this change; say about the mouths of the rivers?

A- In 1868 bars came down and filled up that and I took notice of them more than at any other time.

Q- When did you first notice sand anywhere in considerable quantities

A- In 1861-2.

Q- It commenced then did it?

A- Yes.

Q- Did you see any of it before?

A- Yes, I saw a little

Q- To amount to much?

A- No, sir.

Q- What was the condition of that country say in regard to it being cultivated without trouble before the winter of 1861-2?

A- Well there was considerable of that country that was put in cultivation over there which was used prior to that time and some since.

Q. Did people live there the year round?

A. Yes. The river was settled all the way up. This property that we bought was settled by parties and they had their houses all along up the river there.

Mr. Catlin - Speaking of the Sacramento river now?

A. Yes. Above the mouth.

Mr. Cadwalader - How was it on the American? A. The American was settled up ~~to~~ above there too, several families lived along up through there ~~there was~~.

Q. On both banks?

A. Well on this bank I do not recollect so well. On the other side there was.

Q. When did colonel Mauldin settle in there?

A. Colonel Mauldin settled in there before ever ~~there~~ I was in there.

Q. He was on the North bank of the river?

A. Yes, he was on the north bank. And a man by the name of Bacon and several others

Q. Milgate?

1394 A. Milgate and George Cone.

Q. Were they all engaged in cultivating the soil on the bank of the river?

A. Yes.

Q. Did they have any trouble in raising a crop annually?

A. They never had any trouble when I was acquainted with them, until late, after the water came in, this sediment coming in. It keeps getting worse.

Q. Describe to the court the appearance of that sand?

A. For instance at this time of year, when the first rains come, in the American river as a general thing the water comes down ~~first~~, if it comes heavy rains, like the rain we had along back, ~~and~~ or a little heavier. I have been there at the mouth of the American when the water would come down and it would just come a rolling, and the water appears to be more sand than water.

Q. For how wide would that be?

A. It would not be wide. It would cut out and draw itself to a kind of a channel. For instance, say it was 40 or 50 feet wide; I have seen it pore down there for ten hours

 and then it would cut out and the sand

fills in. It fills in every year eight or ten feet level. And as this comes down it draws the sand in and it keeps undermining and caving. The water keeps washing it out and that keeps up as long as the water is high and until the Sacramento river goes down. That checks this up; that checks the current; and when the Sacramento river checks the current and fills it up it backs up into this river. I have gone across there in 10 days afterwards and the whole river would be level, would not be two feet deep clear across, would be filled up with this stuff coming down. The Sacramento coming up would check it and hold it right in there, and then when the Sacramento falls again this same stuff would wash out and start out into the Sacramento river again.

Q. How many years have you noticed that?

A. I have noticed it every year in the last ten years

Q. Has it been more noticable in the last ten years?

A - It appears to be getting worse every year.

Q What is the ~~aggregate~~ character of the sand that comes ~~down~~ out there? Look at that bottle Marked No. 4 A. S. G.

A That is about the quality of sand that comes down.

Q. Look at that Marked Hodgden specimen.

A. Well there are both qualities of this sand come down. Most any kind comes down there that you want. You can get most any kind of variety by going next the shores. Where the water is; this slum-gullion or slush, regular mush, called slickens, wherever the water goes in it settles. I have seen it six or eight feet thick; but this sand goes out with the current; it is drawn out and goes out with the current.

Q Look at that and see whether you recognize that as slickens (showing witness the Hodgden specimen)

A - Well this is caused by when it forms dead-water. It is the muddy water, the lighter portion where it floats along. And whenever the water becomes quieted this stuff settles, that

is what causes that.

Q. Look at that (Showing No. 5 A. S. G.)

A. Well that is formed in the same way, in dead-water and then there are other times when I have seen the American river come down when it would be perfectly blue by a kind of blue mud. That is caused by mines, the different mines there working, if they are working a mine, where they are taking out this wash dirt. That nasty mud and blue dirt is what I could see in the river there; you could smell it almost. That is a kind of a blue dirt of different color from this; but that is caused by the different mines

Q. You say there would be apparently more sand or coarse sand than water.

A. Yes, in the fall of the year when the water first comes down; that is, when it is cutting out. As it cuts out, these sand banks are worked under and they keep caving in; That coarse sand right into the Sacramento river. There is so much fall that it takes it off pretty rapidly.

1398 Q. How much of an outlet in late years,

say in the last 10 years, have you seen the American occupying? that is at its outlet into the Sacramento

A- Going off into the tules and other places?

Q- I am speaking of its out-let.

The Court- The mouth of the river?

A- Right across the mouth?

Mr Cadwalader- Yes.

A- Well I think it is six hundred feet across there

Q- Across its regular channel

A- Yes.

Q- But I mean in extreme high water. How much space have you seen the American, then occupied in discharging itself into the Sacramento at this town.

A- I do not get at your question.

The Court- How wide is the river at the mouth at high water? at the highest water?

A- At the highest water it is over the whole country from clear up to Lisle's bridge right here to Sacramento City, and then from there clear to Freemont. It flows both ways; I have

1399 seen the current run across from

the American river above, away up by the bridge and right across and in along by our place, and kept a regular current right along and go through the break up here by Mike Bryte's.

Mr Cadwalader - That is the English break?

A - Yes.

Q - What I want to get at is this: How ~~far~~ much of ~~a~~ mouth was the American occupying?

A - When it is inside of its banks?

Q - No; Oh no. At extreme high water.

A - Well I say it extends from right here at the gas works clear up.

Mr Catlin - The new gas works

A - No, the old Gas works and the mill there.

Mr Cadwalader - The Pioneer mill?

A - Yes. I have seen that water running right across our place. I have been through there in a boat when there would be a current from the American river running right square across the whole of our land that joins on there, a mile and a half or two miles, and clear on up through Cone's land and up through

on the Sam Norris grant; a current of water running across the whole of this; and at the same time it would be all over this land between the city here and the river.

Q. What would be the character of that water as to sedimentary matter?

A. It would be very muddy.

Q. Very?

A. Very muddy; so muddy that it is not fit to drink; it is gritty.

Q. What kind of deposite would it leave on the lands?

A. It leaves a deposite similar to this (No. 5 A. S. G.)

Q. How deep have you seen deposites on your land in the last ten years?

A. We have got about ten thousand acres of land over there and used to keep in there through the summer three thousand and four thousand head of cattle, keeping them fat and doing well. But the last five or six years the bed of the river has
1401 filled up so that the water ~~inside~~ does

~~did~~ not dry out there. The water outside holds back the water inside and this stuff has settled in there; and wherever that is settled the grass has quit growing. At the present time I think there is a good deal over half of it that there is not a thing grows on, or has for the last five or six years.

Q. How deep is the sediment there in places?

A. In places it is four and five feet deep; that is, where the sloughs draw out it settles. There is a good deal of that is sand and sediment. But when you get further back in that tule, when the water comes back ~~stagnas~~ and the ~~backs and~~ lighter portion settles. I do not think it is over four or five inches deep; but wherever that settles it kills the grass.

Recess until 2. P. M.